PB83-110874

Water Resources Data for Colorado, Water Year 1981. Volume 1: Missouri River Basin, Arkansas River Basin, and Rio Grande Basin

(U.S) Geological Survey
Lakewood, CO

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U.S. Department of Commerce
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U.S. DEPARTMENT OF THE INTERIOR
March 3, 1849

1876

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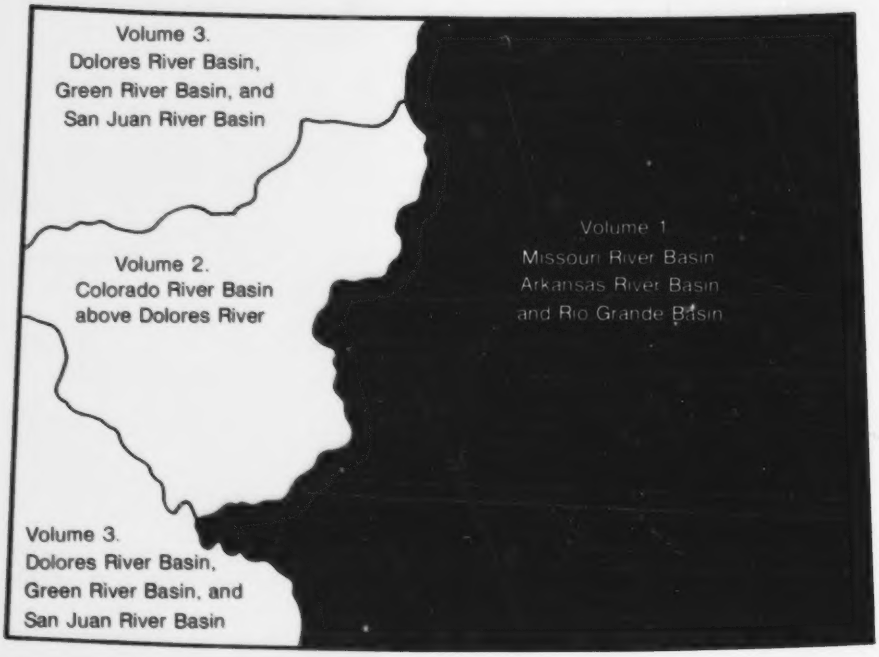
Water Year 1981

Volume 1. Missouri River Basin, Arkansas River Basin, and Rio Grande Basin


Volume 3.
Dolores River Basin,
Green River Basin, and
San Juan River Basin
Volume 2.
Colorado River Basin
above Dolores River
Volume 1
Missouri River Basin
Arkansas River Basin
and Rio Grande Basin
Volume 3.
Dolores River Basin,
Green River Basin, and
San Juan River Basin

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CO-81-1
Prepared in cooperation with the State of Colorado
and with other agencies

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SPRINGFIELD, VA. 22161

CALENDAR FOR WATER YEAR 1981

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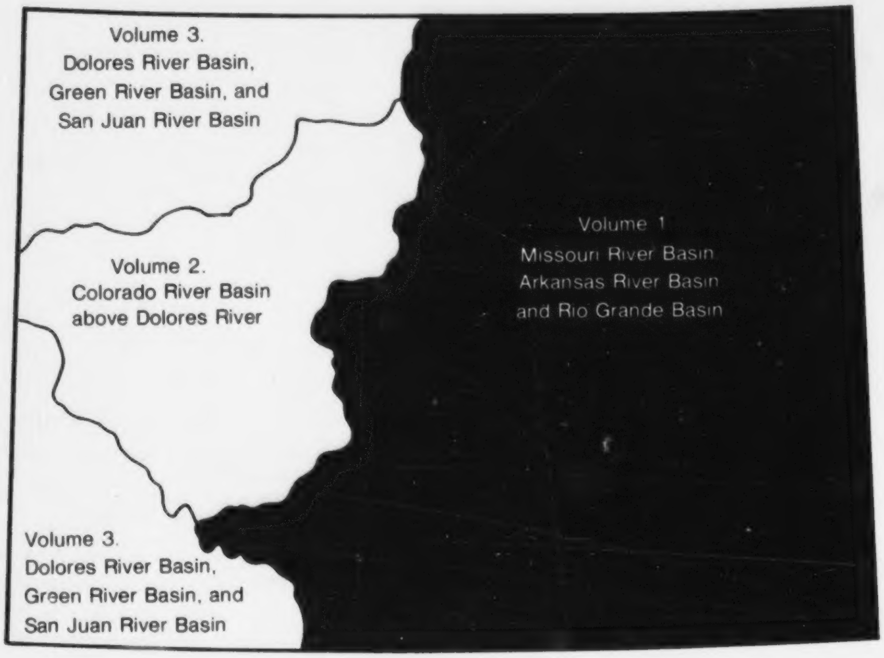
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U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CO-81-1
Prepared in cooperation with the State of Colorado
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR
JAMES G. WATT, Secretary

GEOLOGICAL SURVEY
Dallas L. Peck, Director

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U.S. Geological Survey
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Denver Federal Center
Lakewood, CO 80225

1982

PREFACE

This report was prepared by the U.S. Geological Survey in cooperation with the State of Colorado and other agencies by personnel of the Colorado District of the Water Resources Division under the supervision of J. F. Blakey, District Chief, and Alfred Clebsch, Jr., Regional Hydrologist, Central Region.

This report is one of a series issued State by State under the direction of Philip Cohen, Chief Hydrologist, Robert J. Dingman, Assistant Chief Hydrologist for Scientific Publications and Data Management.

Data for Colorado are in three volumes as follows:

Volume 1. Missouri River, Arkansas River, and Rio Grande basins in Colorado,
Volume 2. Colorado River basin in Colorado, above the Dolores River, and
Volume 3. Dolores River, Green River, and San Juan River basins in Colorado.

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Water-resources data for Colorado for the 1981 water year consists of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs, and water levels and water quality of wells and springs. This report (Volumes 1, 2, and 3) contains discharge records for about 460 gaging stations, stage and contents of 22 lakes and reservoirs, 4 partial-record low-flow stations, 30 crest-stage partial-record stations, and 50 miscellaneous sites; water quality for 163 gaging stations and 300 miscellaneous sites; and water levels for 55 observation wells. A few pertinent stations in bordering States also are included in this report. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey under the direction of J. F. Blakey, district chief. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Colorado.

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[Letter after station name designates type and frequency of published data.
Daily tables: (D) discharge, (C) specific conductance, (S) sediment,
(T) temperature, (e) elevation or contents, (O) dissolved oxygen, (P) pH.

Partial tables: (c) chemical, (b) biological, (m) microbiological,
(s) sediment, (t) temperature]

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WATER RESOURCES DATA FOR COLORADO, 1981

VOLUME 1: MISSOURI RIVER, ARKANSAS RIVER, AND RIO GRANDE BASINS
VOLUME 2: COLORADO RIVER BASIN ABOVE THE DOLORES RIVER
VOLUME 3: DOLORES, GREEN, AND SAN JUAN BASINS

INTRODUCTION

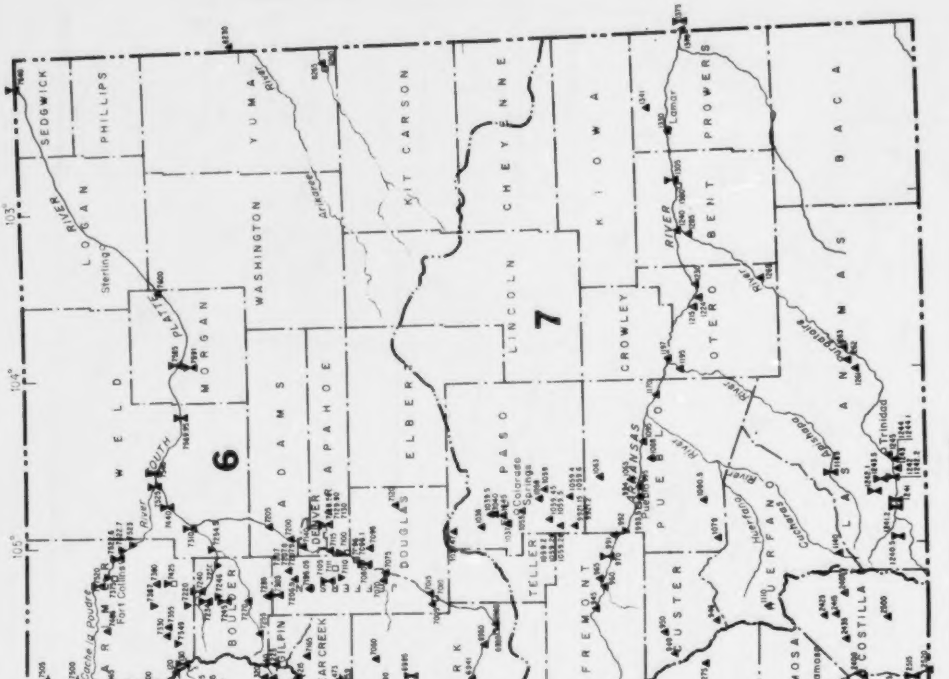
Water-resources data for the 1981 water year for Colorado consists of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of wells and springs. This report (Volumes 1, 2, and 3) contains discharge records for about 450 streamflow-gaging stations, stage and contents of 22 lakes and reservoirs, low-flow data for 4 partial-record stations, peak flow information for 30 crest-stage partial-record stations and 50 miscellaneous sites; water-quality data for 163 streamflow-gaging stations and 300 miscellaneous sites; and water levels for 55 observation wells. Locations of lake- and streamflow-gaging stations and water-quality stations are shown in figure 1, locations of crest-stage partial-record stations are shown in figure 2, and locations of observation wells are shown in figure 3. A few pertinent stations in bordering States also are included in this report. The records were collected and computed by the Colorado District. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Colorado.

Records of discharge and stage of streams, and contents and stage of lakes and reservoirs are published in a series of U.S. Geological Survey Water-Supply Papers entitled, "Surface-water Supply of the United States." These water-supply papers were published in an annual series through September 30, 1960, and then in 5-year compilations for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply paper entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1955 in an annual series of water-supply papers entitled "Water Levels and Artesian Pressures in Wells in the United States," and from 1955 to the present time, in a 5-year series of water-supply papers entitled "Ground-Water Levels in the United States." Water-supply papers may be purchased from Eastern Distribution Branch Text Products Section, U.S. Geological Survey, 604 South Pickett Street, Alexandria, VA 22304.

For water years 1961 through 1970, streamflow data were released by the Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1970 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1971 water year, water data for streamflow, water quality, and ground water are published in official Survey reports on State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report CO-81-1." These water-data reports are for sale, in paper copy or in microfiche, by the National Technical Information Service, U.S. Department of Comerce, Springfield, VA 22161.

Additional information, includingcurrent prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (303) 234-5092.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PHILLIPS
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Grand Junction
RIO BLANCO
ROUTT
Craig
MOFFAT
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White River
Cache la Poudre River
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ARKANSAS RIVER
RIO GRANDE
Dolores River
Gunnison River
Animas River
Purgatoire River
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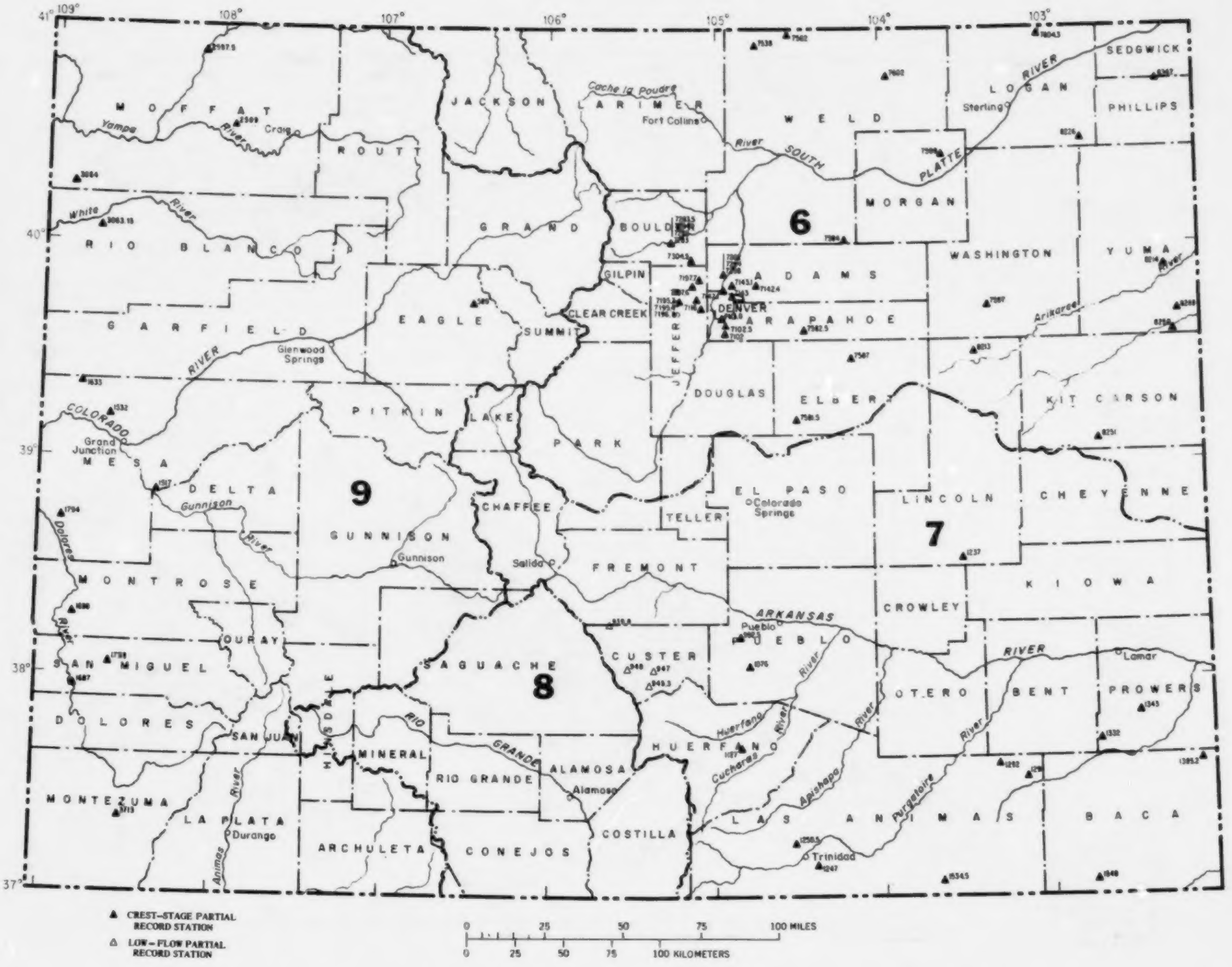
▲ STREAM GAGE
▼ QUALITY-WATER GAGE
TRANSMOUNTAIN OR TRANSBASIN DIVERSION
□ LAKE GAGE
0 25 50 75 100 MILES
0 25 50 75 100 KILOMETERS

Figure 1.--Map showing locations of lake- and stream-gaging stations and water-quality stations in Colorado.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Apishapa River
Purgatoire River
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Fort Collins
Sterling
Glenwood Springs
Grand Junction
DENVER
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Salida
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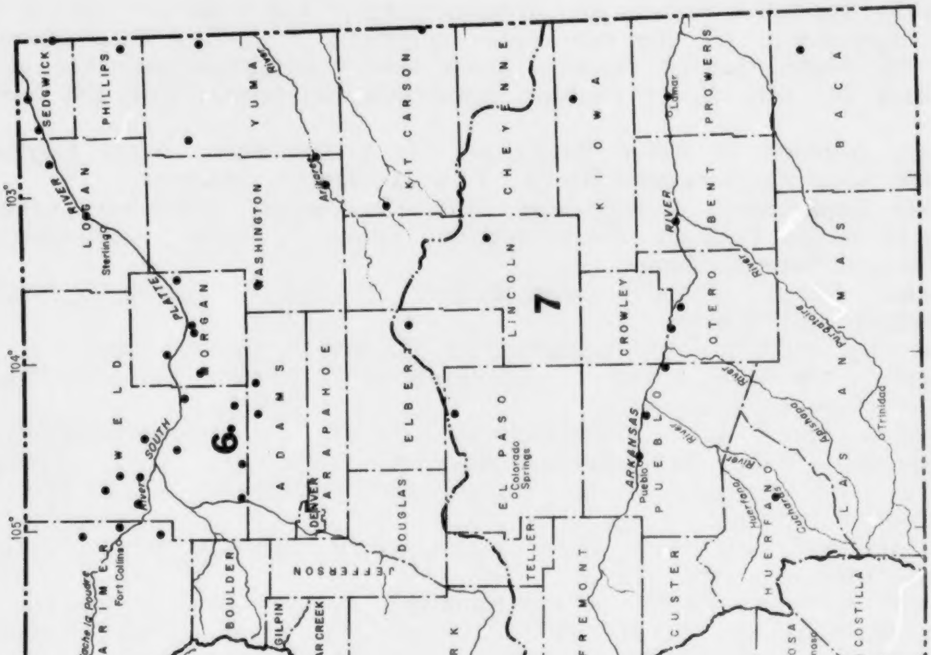
Lamar
Alamosa
Durango
Trinidad
▲ CREST-STAGE PARTIAL RECORD STATION
△ LOW-FLOW PARTIAL RECORD STATION
0 25 50 75 100 MILES
0 25 50 75 100 KILOMETERS

Figure 2.—Map showing locations of crest-stage partial-record stations in Colorado.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108°
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0 25 50 75 100 MILES
0 25 50 75 100 KILOMETERS

Figure 3.—Map showing locations of observation wells in Colorado.

COOPERATION

The U.S. Geological Survey and organizations of the State of Colorado have had cooperative agreements for the systematic collection of surface-water records since 1895, and for water-quality records since 1941. Organizations that assisted in collecting data for this report through cooperative agreement with the Survey are:

Colorado Division of Water Resources, J. A. Danielson, State Engineer.
Colorado Water Conservation Board, J. W. McDonald, Director.
Colorado Department of Highways, Jack Kinstlinger, Executive Director.
Arkansas River Compact Administration, Frank G. Cooley, Chairman and Federal Representative.
Colorado River Water Conservation District, Roland C. Fischer, Secretary-Engineer.
Denver Regional Council of Governments, Robert D. Farley, Exc.
Northern Colorado Water Conservation District, E. F. Phipps, Secretary-Manager.
Purgatoire River Water Conservancy District, Clyde Dawn, President.
Southwestern Water Conservation District, Robert H. Tyner, Manager.
Southeastern Colorado Water Conservancy District, C. L. Thomson, General Manager.
St. Vrain and Left Hand Water Conservancy District, James A. Cinea, Executive Director.
Uncompaghre Valley Water Users Association, James Herbit, Manager.
Urban Drainage and Flood Control District, L. Scott Tucker, Executive Director.
City and County of Denver, Board of Water Commissioners, Charles F. Brannan, President.
Eagle County Commissioners, Dale F. Grant, Chairman.
Mineral County, Nellie M. Wyley, Chairperson, Board of County Commissioners.
Pitkin County Board of County Commissioners, George Ochs, County Manager.
Pueblo Civil Defense, Betty Jo Hopper, Director.
City of Aspen, Phillip Mahoney, City Manager.
City of Aurora, C. A. Wemlinger, Director of Utilities.
Colorado City Water and Sanitation District, W. T. Hambric, District Administrator.
City of Colorado Springs, Department of Public Utilities, James D. Phillips, Director.
City of Fort Collins, Roger E. Krempel, Director of Utilities.
City of Glenwood Springs, John D. West, Manager.
City of Northglenn, Richard P. Lundahl, Director of Public Works.

Financial assistance was also provided by the U.S. Army, Corps of Engineers, U.S. Army; U.S. Air Force; Bureau of Indian Affairs, Bureau of Land Management, Bureau of Mines, Water and Power Resources Service, and the National Park Service, U.S. Department of the Interior; and the U.S. Environmental Protection Agency. Organizations that supplied data are acknowledged in station descriptions.

Some records have been collected and computed by contractors in accordance with U.S. Geological Survey specifications and under Geological Survey quality control.

ACKNOWLEDGMENTS

The Colorado District personnel who contributed significantly to the collection and preparation of the data in this report were:

J. L. Hughes, Subdistrict Chief, R. D. Steger, S. T. Green, C. T. Warren, W. F. Payne, T. C. Cheatum, M. W. Eddy, K. N. Nellson, and M. D. Klock of the Pueblo subdistrict office.

D. B. Manigold, Subdistrict Chief, J. L. Blattner, E. J. Charbonneau, G. B. O'Neill, R. M. Neam, J. D. Martinez, B. F. Rasmusson, B. E. Kelley, and H. E. Hodges of the Lakewood subdistrict office.

HYDROLOGIC CONDITIONS

Overview of the 1981 Water Year

The 1981 water year began with a major winter storm in mid October that covered the mountains with an early season snowpack. A pattern of dry warm weather began in early November and by December the drought was well established. Almost no precipitation fell east of or in the mountains from December to February. In March, several storms brought moisture to the eastern plains and to the higher elevations. The warm dry weather pattern returned in April, and by the end of the month, snow remained on the ground only at elevations above 11,000 feet (3,353 meters). Weather in May was wet and cool and may have been the biggest factor in avoiding a major drought. However, the snowpack in May on the Upper Colorado River Basin was only about 31 percent of normal and all snow-course measurements along the Continental Divide were the minimum of record for May 1. On June 3 a tornado struck the Denver Metropolitan area causing millions of dollars of damage and injuring scores of people. The rainfall in the area varied from 0.12 inches at the Stapleton weather station to 3.63 inches in Wheatridge. A severe thunderstorm on July 3 in Frijole Creek basin caused flash flooding and a railroad bridge was washed out causing a train wreck. Continued thunderstorm activity throughout the summer months helped to minimize the effect of the lack of precipitation during the water year.

Streamflow

The three index stations listed below indicate the streamflow conditions for each of the three major river basins in this volume.

Streamflow at the beginning of the 1981 water year was below normal at the Bear Creek at Morrison index station in the Platte River basin, and remained below normal for the rest of the water year due to the inadequate snow pack. In May, the streamflow had decreased to 44 percent of normal then rose throughout the rest of the year with September being above normal. This was due to thunderstorm activity.

Streamflow the first of the water year at the Arkansas River at Canon City index station was above normal until April. With practically no snowpack in the mountains, the streamflow became deficient and remained that way the rest of the water year. In May, the streamflow had decreased to 40 percent of normal. The severe thunderstorm on July 3 in the Frijole Creek basin produced flashflooding which had a greater than 100-year recurrance interval. A thunderstorm on July 26 produced new peaks of record at the Carpios Canyon near Jansen and Reilly Canyon near Cokedale gaging stations. Another thunderstorm on Aug. 10 produced peaks of record at the Molino Canyon near Weston gaging station.

Streamflow at the Rio Grande near Del Norte index station was below normal at the beginning of the water year, but rose to above normal from November to February. March through August streamflow was below normal due to the poor snowpack. July the streamflow decreased to 51 percent of normal and September streamflow was above normal.

Figure 4 compares monthly and annual mean discharge at three index sites with the 30-year (1951-80) median values of those discharges.

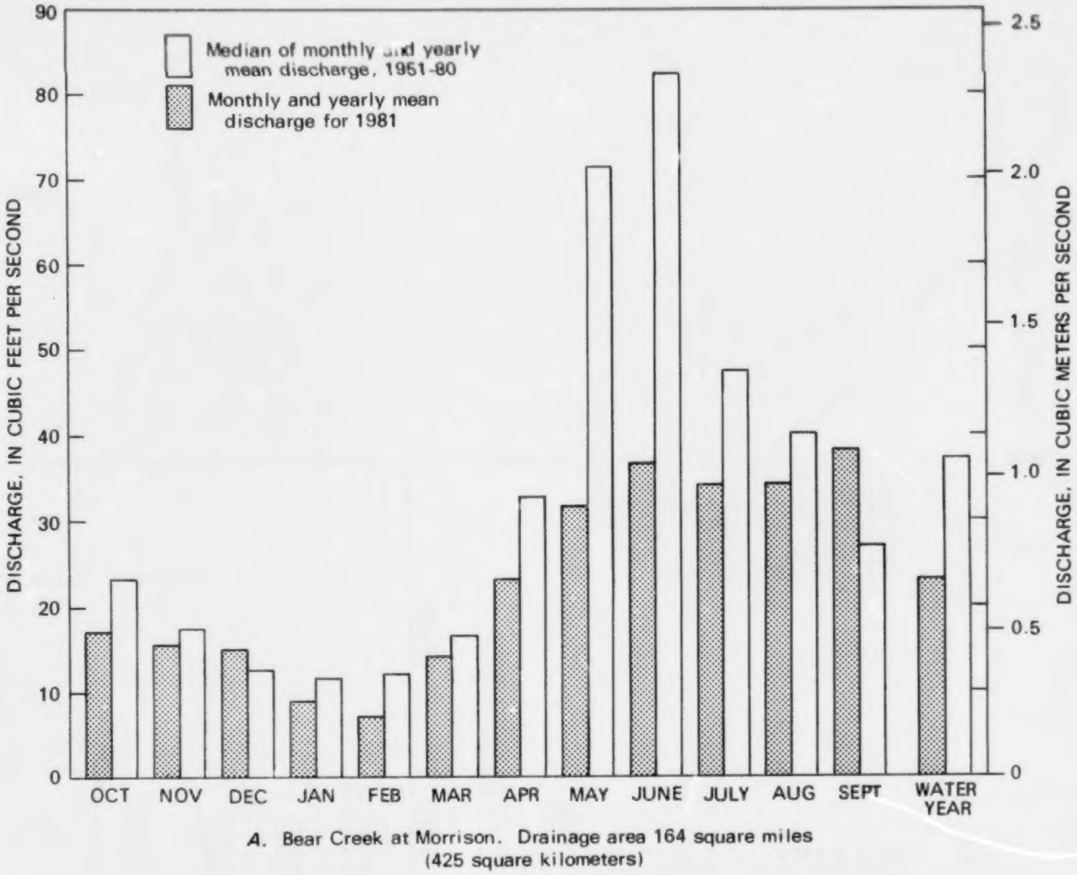
Chemical Quality of Streamflow

The average dissolved solids, hardness, and total nitrogen concentrations of selected streams statewide remained fairly consistent with the averages of the previous 5 years (fig. 5). Total phosphorus is the only exception shown where at some of the selected stream average concentrations were significantly lower. In general, waters discharging from the State to the east are much higher in dissolved solids than waters draining to the west. A majority of the dissolved solids are acquired as the water drains through the eastern plains area.

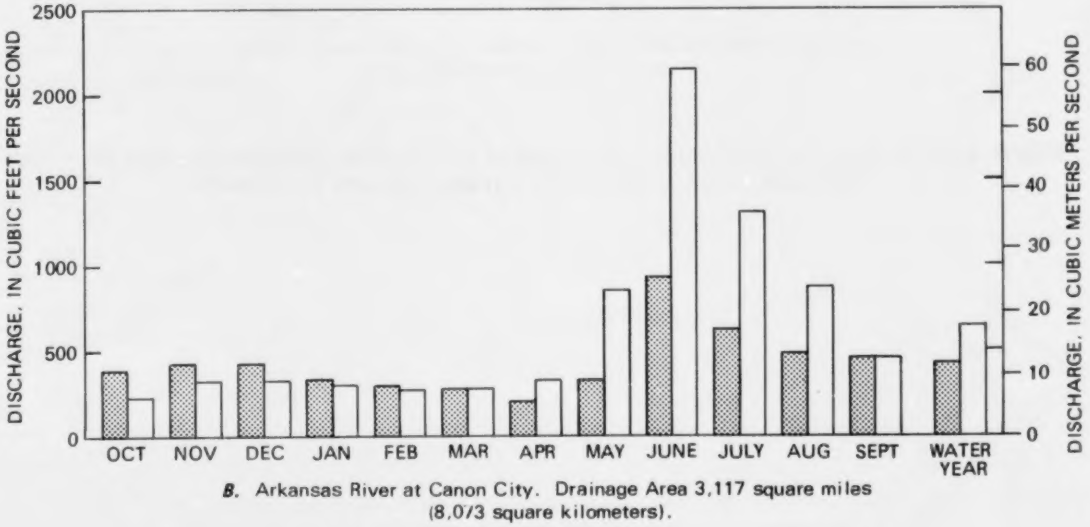
At numerous eastern drainage sites in the area above Pueblo, large concentrations of nitrogen have been observed and occasionally PCB's have been detected in the stream sedimentary material. Dissolved uranium in detectable concentrations is not uncommon in some of the waters draining the eastern part of the Rocky Mountains.

Ground Water

Water levels show the response of the aquifer to pumping and recharge. Water levels also are used to help define hydrologic units and water-supply potential.

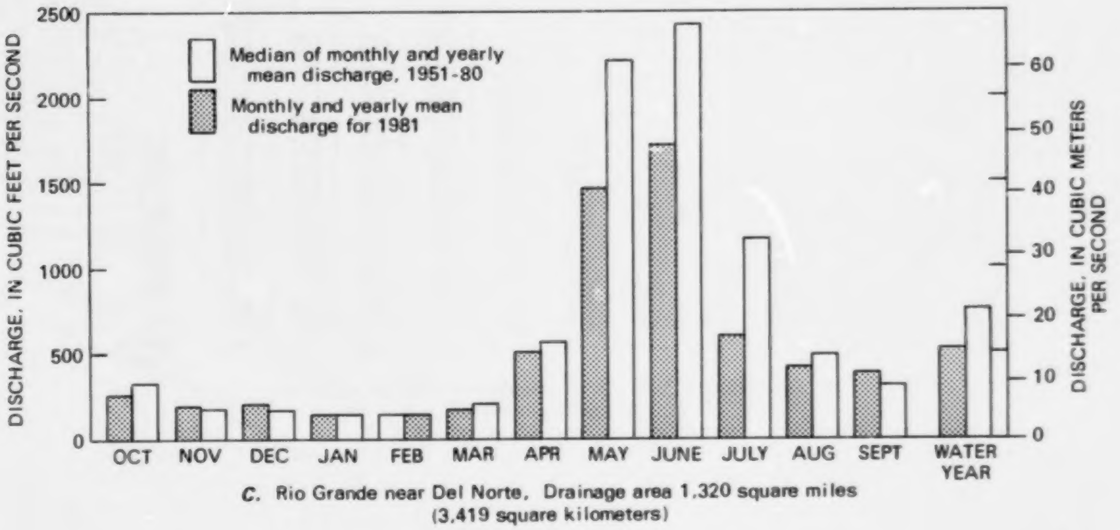


A. Bear Creek at Morrison. Drainage area 164 square miles (425 square kilometers)



B. Arkansas River at Canon City. Drainage Area 3,117 square miles (8,073 square kilometers).

Figure 4.-- Discharge for 1981 water year compared with median discharge for 1951-80 water years for three representative gaging stations.



C. Rio Grande near Del Norte, Drainage area 1,320 square miles (3,419 square kilometers)

Figure 4.--Discharge for 1981 water year compared with median discharge for 1951-80 water years for three representative gaging stations--Continued.

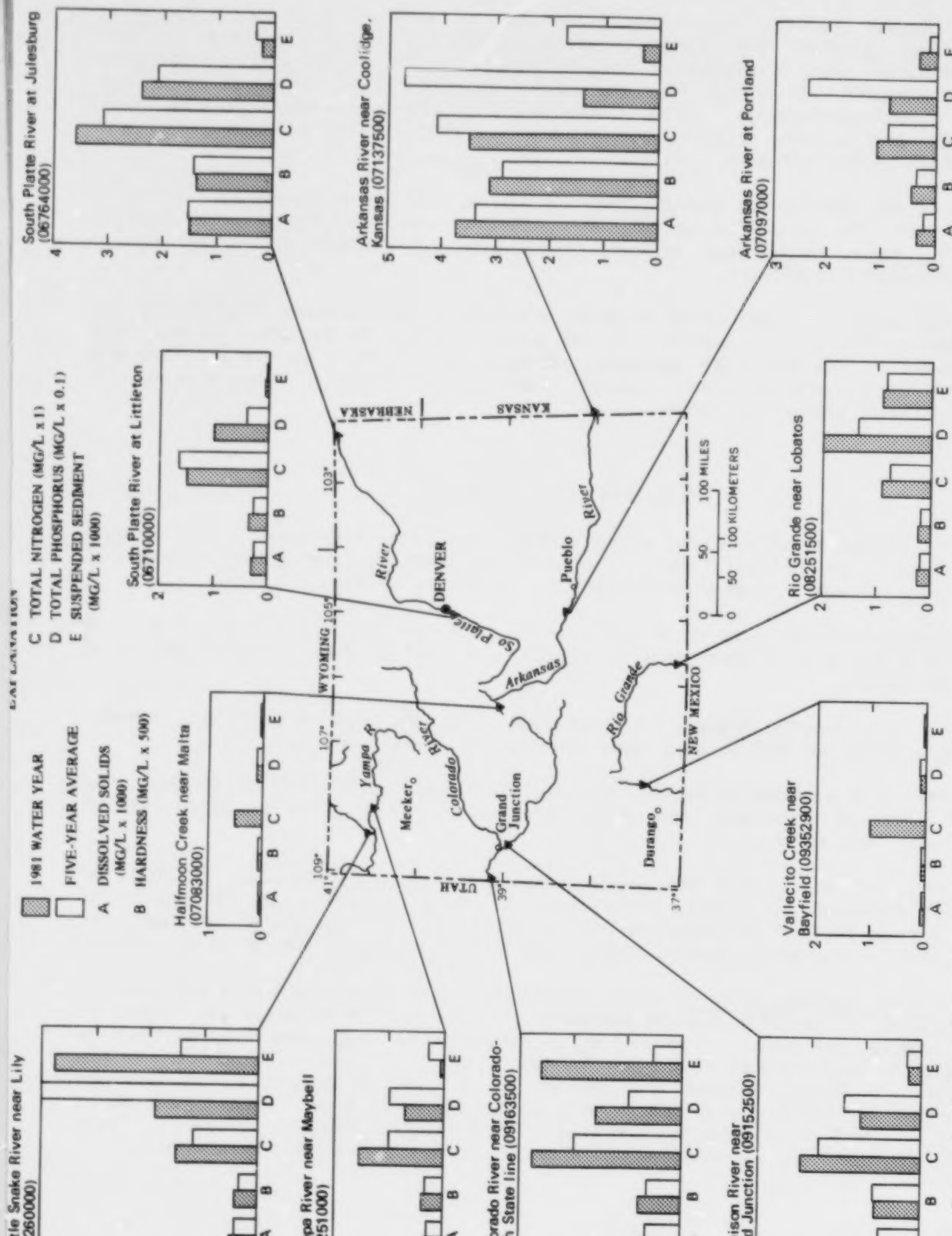


Figure 5.-- Average concentrations for 1981 water year compared with the average concentrations for 1976-80 water years.

The aquifer systems within the State can be grouped into two catagories: unconsolidated aquifers and consolidated aquifers. The unconsolidated aquifers receive recharge from precipitation, return flow from irrigation, and leakage from canals and streams. Discharge from the system normally is by discharge to streams and by evapotransporation. The consolidated aquifers receive recharge from precipitation and streams crossing outcrop areas. The aquifers primarily discharge water to springs and streams.

East of the Continental Divide, because of the substantial utilization of ground water by man, the major fluctuations are caused by artificial withdrawal. West of the divide, where withdrawal is low, the water-level fluctuations reflect mostly changes in natural conditions.

Ground water is being mined from the aquifers in the Northern High Plains and in the Denver Basin. The aquifers in the alluvial valleys in eastern Colorado have been affected by ground-water pumping. Most of the aquifers in western Colorado are still under natural conditions except where ground water is being pumped for the production of energy resources.

DEFINITION OF TERMS

Terms related to streamflow, water quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting inch-pound units to International System of units (SI) on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Bacteria are microscopic unicellular organisms, typically spherical, rod like, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms which produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C ± 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2C° on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterrococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which the bottom of a streambed, lake, pond, reservoir, or estuary is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter (mg/L), necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area of volume of habitat.

Ash mass is the mass of amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and those for periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and the ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters. It represents a runoff of approximately 0.0372 inch from 1 square mile, or 0.3468 millimeter from 1 square kilometer.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Cubic foot per second (cfs, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second, or 448.8 gallons per minute, or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

> Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.
>
> Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45 µm membrane filter. This may include some very small (colloidal) suspended particles as well as the amount of substance present in true chemical solution. It is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved oxygen (DO) is the dissolved-oxygen content of water in equilibrium with air and is a function of atmospheric pressure and temperature and dissolved-solids concentration of the water. The capacity of water for dissolved-oxygen decreases as dissolved solids or temperature increase or as atmospheric pressure decreases. Dissolved-solids concentration has the least effect on dissolved-oxygen concentration. Photosynthesis and respiration may cause diel variations in dissolved-oxygen concentration in water from some streams.

Drainage area of a stream at a specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

Hardness of water is the physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Micrograms per liter (UG/L, μg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L, and is based on the mass of sediment per liter of water-sediment mixture.

Table 1.--Factors for conversion of chemical constituents in milligrams or micrograms per liter to milliequivalents per liter

Ion	Multiply by	Ion	Multiply by
Aluminum (Al^{+3})*.......	0.11119	Iodide (I^{-1}).............	0.00788
Ammonia as N...........	.07139	Iron (Fe^{+3})*.............	.05372
Barium (Ba^{+2})..........	.01456	Lead (Pb^{+2})*.............	.00965
Bicarbonate (HCO_3^{-1})...	.01639	Lithium (Li^{+1})*..........	.14411
Bromide (Br^{-1}).........	.01251	Magnesium (Mg^{+2}).........	.08226
Calcium (Ca^{+2}).........	.04990	Manganese (Mn^{+2})*........	.03640
Carbonate (CO_3^{-2})......	.03333	Nickel (Ni^{+2})*...........	.03406
Chloride (Cl^{-1})........	.02821	Nitrate as N.............	.07139
Chromium (Cr^{+6})*.......	.11539	Nitrite as N.............	.07139
Cobalt (Co^{+2})*.........	.03394	Phosphate,ortho as P.....	.09686
Copper (Cu^{+2})*.........	.03148	Potassium (K^{+1})..........	.02557
Cyanide (CN^{-1}).........	.03844	Sodium (Na^{+1})............	.04350
Fluoride (F^{-1}).........	.05264	Strontium (Sr^{+2})*........	.02283
Hydrogen (H^{+1}).........	.99209	Sulfate (SO_4^{-2})..........	.02082
Hydroxide (OH^{-1}).......	.05880	Zinc (ZN^{+2})*.............	.03060

*Constituents reported in micrograms per liter; multiply by factor and divide results by 1,000.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Partial-record station is a particular site where limited streamflow or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined either by sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Table 2.--Factors for conversion of sediment concentration in milligrams per liter to parts per million*

[All values calculated to three significant figures]

Range of concentration in 1000 mg/L	Divide by	Range of concentration in 1000 mg/L	Divide by	Range of concentration in 1000 mg/L	Divide by	Range of concentration in 1000 mg/L	Divide by
0 - 8	1.00	201-217	1.13	411-424	1.26	619-634	1.39
8.05- 24	1.01	218-232	1.14	427-440	1.27	636-650	1.40
24.2 - 40	1.02	234-248	1.15	443-457	1.28	652-666	1.41
40.5 - 56	1.03	250-264	1.16	460-473	1.29	658-682	1.42
56.5 - 72	1.04	266-280	1.17	476-489	1.30	684-698	1.43
72.5 - 88	1.05	282-297	1.18	492-506	1.31	700-715	1.44
88.5 -104	1.06	299-313	1.19	508-522	1.32	717-730	1.45
105 -120	1.07	315-329	1.20	524-538	1.33	732-747	1.46
121 -136	1.08	331-345	1.21	540-554	1.34	749-762	1.47
137 -152	1.09	347-361	1.22	556-570	1.35	765-780	1.48
153 -169	1.10	363-378	1.23	572-585	1.36	782-796	1.49
170 -185	1.11	380-393	1.24	587-602	1.37	798-810	1.50
186 -200	1.12	395-409	1.25	604-617	1.38		

*Based on water density of 1.000 g/mL and a specific gravity of sediment of 2.65.

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay............	0.00024 - 0.004	Sedimentation
Silt............	.004 - .062	Sedimentation
Sand............	.062 - 2.0	Sedimentation or sieve
Gravel..........	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Periphyton is the assemblage of microorganisms attached to, and growing upon, solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton is a useful indicator of water quality.

Pesticide network is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams whose waters are used for irrigation or in streams in areas where potential contamination could result from the application of the commonly used insecticides and herbicides.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per mL of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per mL of sample.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 disintegrations per minute (dpm).

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Radiochemical network is a network of regularly sampled water-quality stations where samples are collected monthly or twice a year (at high and low flow) to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Radioisotopes are isotopic forms of an element that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight, but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus. For example: Ordinary chlorine is a mixture of isotopes having atomic weights 35 and 37, with the natural mixture having atomic weight about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron (Rose and Rose, 1966). There are 275 isotopes of the 81 stable elements in addition to over 800 radioactive isotopes.

Radioisotopes that are determined in this program are natural uranium in μg/L (micrograms per liter), radium as radium-226 in PC/L (pCi/L, picocuries per liter), gross beta radiation as equivalent strontium/yttrium-90 or cesium-137 in PC/L, and gross alpha radiation as micrograms of uranium equivalent per liter (μg/L). Gross alpha and beta radioactivity associated with the fine-grained (silt and clay-sized) sediments in the samples are also determined.

Recoverable from bottom material the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft (0.09 m) above the bed) expressed as milligrams of dry sediments per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge in cfs times concentration in mg/L times 0.0027.

Suspended-sediment load is that quantity of suspended sediment passing a section in a specified period.

Total sediment discharge or total sediment load is the sum of the suspended-sediment discharge and the bedload discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. This ratio should be known especially for water used for irrigating farmland.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks and is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the number and specific chemical types of ions in solution and can be used for approximating the dissolved-solids content in the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream or from well to well, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Suspended, recoverable the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 μm membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 μm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the location of the thermograph.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the water year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all of the constituent in the sample.)

Total in bottom material the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total, recoverable the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Water year in the U.S. Geological Survey is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1981, is called the "1981 water year."

Weighted average is used in this report to indicate the discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WRD is an abbreviation for "Water-Data Report" in the summary REVISIONS paragraph to refer to State annual basic-data reports published prior to 1975.

WDR is used as an abbreviation for "Water-Resources Data" in the summary REVISIONS paragraph to refer to State annual basic-data reports published after 1975.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column, and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

DOWNSTREAM ORDER AND STATION NUMBER

Stations are listed in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the list of gaging stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, each gaging station and each partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station.

Gaps are left in the sequential allocation of numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 07083000, which appears just to the left of the station name, includes the 2-digit part number "07" plus the 6-digit downstream order number "083000." In this report the records are listed in downstream order by parts. The part number refers to an area whose boundaries coincide with certain natural drainage lines. Records in this report are for Part 6 (Missouri River basin), Part 7 (Lower Mississippi River basin), and Part 8 (Western Gulf of Mexico basins). Records for Part 9 (Colorado River Basin) are in Volumes 2 and 3. All records for a drainage basin encompassing more than one State can be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

SPECIAL NETWORKS AND PROGRAMS

Some of the stations for which data are published in this report are included in special networks and programs. These stations are identified by their title, set in parentheses, under the station name.

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

Irrigation-network stations are water-quality stations located at or near certain streamflow gaging stations west of the main stem of the Mississippi River. Data collected at these stations are used to evaluate the chemical quality of surface waters used for irrigation and the changes resulting from the drainage of irrigated lands. Prior to water year 1966, the data for these stations were published in the annual Water-Supply Paper series, "Quality of Surface Water for Irrigation, Western States."

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated in the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are: (1) To depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis, and (2) to detect and assess long-term changes in streamflow and stream quality.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and Computation of Data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at 5-, 15-, 30- or 60-minute intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the U.S. Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6. Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is determined by sounding at many points.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by hydrologists and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated on the basis of operator's log, adjoining good record, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Records are published for the water year, which begins on October 1 and ends on September 30. A calendar for the current water year is shown on the inside of the front cover to facilitate finding the day of the week for any date.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge are affected by the revisions, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given.

The type of gage currently in use, the datum of the present gage above mean sea level, referred to National Geodetic Vertical Datum; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey unless otherwise qualified. National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS."

Information pertaining to the accuracy of the discharge records, to conditions which affect the natural flow of the gaging station, availability of water-quality records, and reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir, is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE;" it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance.

The maximum discharge (or contents) and the maximum gage height, the minimum discharge if there is little or no regulation (or minimum contents), and the minimum gage height, if it is significant, are given under "EXTREMES." The minimum daily discharge is given if there is extensive regulation (also the minimum discharge and gage height if they are abnormally low). Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second (ft^3/s) during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in acre-feet (line headed "AC-FT"). In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

Data collected at partial-record stations and at miscellaneous sites follow the information for continuous record sites. Data for partial-record discharge stations are presented in three tables. The first is a table of discharge measurements at low-flow partial-record stations, the second is a table of annual maximum stage and discharge at crest-stage stations, and the third is a table of discharge measurements at miscellaneous sites.

Accuracy of field data and computed results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good" means within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second (ft^3/s) for discharges of less than 1 ft^3/s; to tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures above 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. However, because all the effects cannot be measured or evaluated, satisfactory adjustments generally cannot be made. For some stations, available figures of diversions or change in contents of reservoirs are included as supplemental data. Even at those stations where adjustments can be made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Data Available

Information of a more detailed nature than that published for most of the gaging stations, such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the district office.

Records of Discharge Collected by Agencies other than the Geological Survey

Records of discharge not published by the Geological Survey were collected at many sites in Colorado during the water year by the following agencies: City of Colorado Springs; Colorado Division of Water Resources; Forest Service, U.S. Department of Agriculture; City and County of Denver, Board of Water Commissioners; National Weather Service, Department of Commerce; and Water and Power Resources Service, U.S. Department of the Interior.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

Water samples for analyses usually are collected at or near streamflow-gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data, the period of daily record for parameters that are measured on a daily basis (such as, specific conductance, pH, dissolved oxygen, water temperature, sediment discharge), extremes for the period of daily record, extremes for current year, and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling, or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water Analysis

Most methods for collecting and analyzing water samples are described in "U.S. Geological Survey Techniques of Water-Resources Investigations," which are listed on page 35.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling, as much as possible, consistent wth available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field determination of carbonate and bicarbonate in the laboratory.

Prior to the 1968 water year, data for chemical constituents and concentrations of suspended sediment were reported in parts per million (ppm) and water temperatures were reported in degrees Fahrenheit (°F). In October 1967, the Geological Survey began reporting data for chemical constituents and concentrations of suspended sediment in milligrams per liter (mg/L) and water temperatures in degrees Celsius (°C). In waters with a density of 1.000 grams per milliliter (g/mL), parts per million and milligrams per liter can be considered equal. In waters with a density greater than 1.000 g/mL, values in parts per million should be multiplied by the density to convert to milligrams per liter. Temperature reported in degrees Celsius may be converted to degrees Fahrenheit by using table 3.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water Temperatures

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the time of discharge measurements for surface-water stations. For stations where water temperatures are taken manually the water temperatures are taken at about the same time each day. Large streams have a small diel temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges. At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published.

Table 3.--Degrees Celsius (°C) to degrees Fahrenheit (°F)*
(Temperature reported to nearest 0.5°C)

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
0.0	32	10.0	50	20.0	68	30.0	86	40.0	104
.5	33	10.5	51	20.5	69	30.5	87	40.5	105
1.0	34	11.0	52	21.0	70	31.0	88	41.0	106
1.5	35	11.5	53	21.5	71	31.5	89	41.5	107
2.0	36	12.0	54	22.0	72	32.0	90	42.0	108
2.5	36	12.5	54	22.5	72	32.5	90	42.5	108
3.0	37	13.0	55	23.0	73	33.0	91	43.0	109
3.5	38	13.5	56	23.5	74	33.5	92	43.5	110
4.0	39	14.0	57	24.0	75	34.0	93	44.0	111
4.5	40	14.5	58	24.5	76	34.5	94	44.5	112
5.0	41	15.0	59	25.0	77	35.0	95	45.0	113
5.5	42	15.5	60	25.5	78	35.5	96	45.5	114
6.0	43	16.0	61	26.0	79	36.0	97	46.0	115
6.5	44	16.5	62	26.5	80	36.5	98	46.5	116
7.0	45	17.0	63	27.0	81	37.0	99	47.0	117
7.5	45	17.5	63	27.5	81	37.5	99	47.5	117
8.0	46	18.0	64	28.0	82	38.0	100	48.0	118
8.5	47	18.5	65	28.5	83	38.5	101	48.5	119
9.0	48	19.0	66	29.0	84	39.0	102	49.0	120
9.5	49	19.5	67	29.5	85	39.5	103	49.5	121

*°C=5/9(°F-32°) or °F=9/5(°C)+32°.

In October 1968, the Geological Survey began reporting many of the chemical constituents as well as the minor elements in micrograms per liter instead of milligrams per liter. See "Definition of Terms," and table 5 for converting English units to SI units.

The biological information includes qualitative and quantitative analyses of plankton, periphyton, Chlorophyll a and b, biomass and bottom organisms. Microbiological information includes quantitative identification of selected bacteriological indicator organisms.

Solutes

Most methods for collecting and analyzing water samples to determine the kinds and concentrations of solutes are described by Brown, Skougstad, and Fishman (1970). Analysis of pesticides and organic substances in water are described by Goerlitz and Lamar (1967), Lamar, Goerlitz, and Law (1965), and Goerlitz and Brown (1972). The collection and analysis of aquatic, biological, and microbiological samples are described by Slack and others (1973).

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge. A blank in the daily mean concentration column of the suspended-sediment discharge table indicates the value in the sediment discharge column was estimated. A zero value in the sediment-discharge column when there are nonzero values in the mean discharge and mean concentration columns indicates the load is less than 0.005 ton per day.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the streams.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

WATER-SUPPLY PAPERS

The annual series of Water-Supply Papers that give information on quality of surface waters in Colorado are shown in the following table:

Table 4.--Water-Supply Paper numbers and parts, water years 1941-71

Year	Part 6	Part 7	Part 8	Part 9	Irrigation (1951-65)[a]
1941	942	942	942	942	----
1942	950	950	950	950	----
1943	970	970	970	970	----
1944	1022	1022	1022	1022	----
1945	1030	1030	1030	1030	----
1946	1050	1050	1050	1050	----
1947	1102	1102	1102	1102	----
1948	1132	1133	1133	1133	----
1949	1162	1163	1163	1163	----
1950	1187	1188	1188	1189	----
1951	1198	1199	1199	1200	1264
1952	1251	1252	1252	1253	1362
1953	1291	1292	1292	1293	1380
1954	1351	1352	1352	1353	1430
1955	1401	1402	1402	1403	1465
1956	1451	1452	1452	1453	1485
1957	1521	1522	1522	1523	1524
1958	1572	1573	1573	1574	1575
1959	1643	1644	1644	1645	1699
1960	1743	1744	1744	1745	1746
1961	1883	1884	1884	1885	1886
1962	1943	1944	1944	1945	1946
1963	1949	1950	1950	1951	1952
1964	1956	1957	1957	1958	1960
1965	1963	1964	1964	1965	1967
1966	1993	1994	1994	1995	----
1967	2013	2014	2014	2015	----
1968	2095	2096	2097	2098	----
1969	2145	2146	2147	2148	----
1970	2155	2156	2157	2158	----
1971	2165	[b]2166	[b]2167	[b]2168	----

[a] Annual series, "Quality of Surface Waters for Irrigation, Western States."
[b] In preparation.

Information about reports and other data on quality of water in Colorado may be obtained from the district office at the address given on the back of the title page of this report.

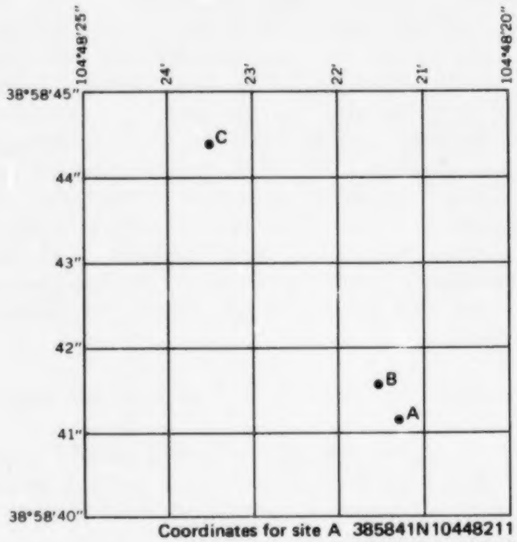
EXPLANATION OF GROUND-WATER-LEVEL RECORDS

Collection of Data

Only ground-water level data from a basic national network of observation wells are published herein. These water-level measurements are intended to provide a record of water-level changes in important aquifers.

The locations of wells are referenced by two systems. One system is based on latitude and longitude, and the second is based on the U.S. Bureau of Land Management system of land subdivision. The latitude and longitude grid system facilitates machine processing of data and plotting of data points.

The latitude and longitude grid system is used to provide the geographic location of each well. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude; N designates north; the next seven digits denote degrees, minutes, and seconds of longitude; and the last digit is a sequential number for wells within a 1-second grid, as shown below in figure 6.



Coordinates for site A	385841N10448211
B	385841N10448212
C	385844N10448230

Figure 6.--System for numbering wells and miscellaneous sites (latitude and longitude).

The local well number locates a well within a 10-acre (4.0-ha) tract using the U.S. Bureau of Land Management system of land subdivision. The components of the local well number proceed from the largest to the smallest land subdivisions. This is in contrast to the legal description, which proceeds from the smallest to the largest land subdivision. The largest subdivision is the survey. Colorado is governed by three surveys: The Sixth Principal Meridian Survey (S), the New Mexico Survey (N), and the Ute Survey (U). Costilla County was not included in any of the above official surveys. This report follows the convention of the Costilla County Assessor in which the northern part of the county is governed by the Sixth Principal Meridian Survey and the southern part of the county is governed by a local system called the Costilla Survey (C). The first letter of the well location designates the survey.

A survey is subdivided into four quadrants formed by the intersection of the baseline and the principal meridian. The second letter of the well location designates the quadrant: A indicates the northeast quadrant, B the northwest, C the southwest, and D the southeast. A quadrant is subdivided in the north-south direction every 6 mi (10 km) by townships and is subdivided in the east-west direction every 6 mi (10 km) by ranges. The first number of the well location designates the township and the second number designates the range.

The 36-mi^2 (93-km^2) area described by the township and range designation is subdivided into 1-mi^2 (2.59-km^2) areas called sections. The sections are numbered sequentially. The third number of the well location designates the section. The section, which contains 640 acres (259 ha), is subdivided into quarter sections. The 160-acre (64.8-ha) area is designated by the first letter following the section: A indicates the northeast quarter, B the northwest, C the southwest, and D the southeast. The quarter section is subdivided into quarter-quarter sections. The 40-acre (16.2-ha) area is designated in the same manner by the second letter following the section. The quarter-quarter section is subdivided into quarter-quarter-quarter sections. The 10-acre (4.0-ha) area is designated in the same manner by the third letter following the section. If more than one well is located within the 10-acre (4.0-ha) tract, the wells are numbered sequentially in the order in which they were originally inventoried. If this number is necessary, it will follow the three-letter designation.

The local number is provided for continuity with older reports.

Measurements are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well insure that measurements at each well are of consistent accuracy and reliability.

Water-level measurements in this report are given in feet with reference to either mean sea level (msl) or land-surface datum (lsd). Mean sea level is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum above mean sea level is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

Publications

Publication of ground-water level data for the United States in water-supply papers was begun by the Geological Survey in 1935. From 1935 through 1939, a single water-supply paper covering the entire nation was issued each year (Water-Supply Papers 777, 817, 840, 845, and 886). From 1940 through 1974, separate water-supply papers were issued for six sections of the United States. Water-level data for Colorado are included in the water-supply papers listed below, each report containing one or more calendar years (January through December) of data. Data in this report are for the 12-month water year ending September 30.

Calendar year	WSP no.	Calendar year	WSP no.	Calendar year	WSP no.	Calendar year	WSP no.
1940	910	1945	1027	1950	1169	1955	1408
1941	940	1946	1075	1951	1195	1956-60	1760
1942	948	1947	1100	1952	1225	1961-65	1845
1943	990	1948	1130	1953	1269	1966-70	1980
1944	1020	1949	1160	1954	1325		

Information about reports and other data on ground water in Colorado may be obtained from the district office at the address given on the back of the title page of this report.

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PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office. Prices are effective October 1978 but are subject to change.

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

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5-A5.* *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages. $16.00.

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*These publications are available ONLY from Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. They are in looseleaf format and are subscription items. Additional supplements will be issued to subscribers at no extra cost. Checks should be made payable to Superintendent of Documents. Requestor should emphasize to Superintendent of Documents that this is a subscription item.

06614800 MICHIGAN RIVER NEAR CAMERON PASS, CO

LOCATION.--Lat 40°29'46", long 105°51'52", in S½ sec.12, T.6 N., R.76 W. (unsurveyed), Jackson County, Hydrologic Unit 10180001, on right bank 500 ft (152 m) upstream from Michigan ditch, 2.2 mi (3.5 km) southeast of Cameron Pass, 8 mi (13 km) east of Gould, and 27 mi (43 km) southeast of Walden.

DRAINAGE AREA.--1.53 mi² (3.96 km²).

PERIOD OF RECORD.--October 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 10,390 ft (3,167 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. No diversion above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--8 years, 2.75 ft³/s (0.078 m³/s), 1,990 acre-ft/yr (2.45 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44 ft³/s (1.25 m³/s) June 18, 1974, gage height, 3.53 ft (1.076 m); minimum daily, 0.12 ft³/s (0.003 m³/s) Jan. 12, 13, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 37 ft³/s (1.05 m³/s) at 1445 June 6, gage height, 3.50 ft (1.067 m); minimum daily, 0.14 ft³/s (0.004 m³/s) Dec. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.67	.45	.33	.16	.25	.16	.20	2.5	16	5.7	2.4	1.2
2	.63	.45	.33	.16	.23	.16	.20	2.8	17	8.1	2.3	1.5
3	.66	.45	.33	.16	.23	.16	.20	3.3	18	10	2.2	1.8
4	.62	.41	.30	.16	.23	.16	.20	2.8	20	9.9	2.2	1.4
5	.60	.41	.29	.18	.22	.16	.20	2.7	21	10	2.0	1.5
6	.58	.41	.29	.18	.22	.16	.20	2.4	23	8.4	1.9	1.8
7	.57	.41	.29	.19	.22	.16	.20	2.2	26	7.4	2.0	1.6
8	.55	.41	.29	.20	.22	.16	.20	2.2	23	7.2	1.9	1.7
9	.52	.41	.29	.20	.21	.16	.20	2.1	17	6.9	2.2	1.9
10	.46	.37	.33	.20	.20	.16	.21	2.2	16	6.2	2.0	2.0
11	.45	.41	.32	.20	.22	.16	.20	2.1	14	5.4	2.0	2.0
12	.44	.37	.28	.20	.22	.16	.20	2.1	12	5.4	2.0	1.8
13	.46	.39	.30	.24	.22	.16	.20	2.1	11	5.5	2.1	1.8
14	.50	.41	.29	.24	.22	.16	.20	2.2	8.2	5.1	1.9	1.8
15	.61	.41	.26	.21	.19	.16	.18	2.4	6.5	4.3	2.7	1.7
16	.58	.45	.25	.20	.19	.16	.20	2.4	5.7	3.9	2.8	1.6
17	.60	.45	.24	.19	.18	.16	.22	2.4	5.6	3.7	2.4	1.5
18	.61	.45	.22	.18	.18	.16	.22	2.3	5.1	3.4	2.2	1.4
19	.59	.41	.24	.18	.18	.18	.29	2.5	5.3	3.6	2.0	1.3
20	.75	.42	.22	.18	.18	.18	.28	2.9	6.2	3.1	1.9	1.2
21	.72	.41	.22	.20	.18	.18	.22	3.1	7.1	2.9	1.7	1.3
22	.66	.37	.23	.20	.16	.18	.22	3.2	7.1	2.7	1.7	1.2
23	.61	.35	.23	.20	.16	.18	.21	3.2	6.5	2.5	1.6	1.2
24	.58	.33	.23	.20	.17	.18	.31	3.6	6.5	2.6	1.7	1.2
25	.54	.33	.23	.20	.16	.19	.59	4.2	6.2	2.7	1.8	1.1
26	.52	.33	.19	.20	.16	.20	1.1	5.9	6.3	3.2	1.6	1.2
27	.49	.37	.16	.22	.16	.20	1.2	7.2	7.1	3.5	1.4	1.1
28	.48	.33	.15	.22	.16	.20	1.3	8.5	8.8	3.0	1.3	.96
29	.47	.33	.14	.23	---	.19	1.7	9.6	6.5	2.7	1.3	.84
30	.46	.33	.16	.25	---	.18	2.2	12	5.4	2.6	1.3	.79
31	.44	---	.16	.25	---	.19	---	15	---	2.7	1.3	---
TOTAL	17.42	11.83	7.79	6.18	5.52	5.31	13.25	124.1	344.1	154.3	59.8	43.39
MEAN	.56	.39	.25	.20	.20	.17	.44	4.00	11.5	4.98	1.93	1.45
MAX	.75	.45	.33	.25	.25	.20	2.2	15	26	10	2.8	2.0
MIN	.44	.33	.14	.16	.16	.16	.18	2.1	5.1	2.5	1.3	.79
AC-FT	35	23	15	12	11	11	26	246	683	306	119	86

CAL YR 1980 TOTAL 1012.73 MEAN 2.77 MAX 28 MIN .14 AC-FT 2010
WTR YR 1981 TOTAL 792.99 MEAN 2.17 MAX 26 MIN .14 AC-FT 1570

06616000 NORTH FORK MICHIGAN RIVER NEAR GOULD, CO

LOCATION.--Lat 40°32'58", long 106°01'14", in SE¼NW¼ sec.27, T.7 N., R.77 W., Jackson County, Hydrologic Unit 10180001, on left bank 25 ft (8 m) upstream from county road bridge, 0.7 mi (1.1 km) downstream from dam on recreation lake, 1.6 mi (2.6 km) north of Gould, 2.8 mi (4.5 km) upstream from mouth, and 19 mi (31 km) southeast of Walden.

DRAINAGE AREA.--21.2 mi² (54.9 km²).

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 8,793 ft (2,680.1 m), National Geodetic Vertical Datum of 1929. Prior to Oct. 6, 1964, at site 0.6 mi (1.0 km) upstream at datum 55.00 ft (16.764 m) higher. Oct. 6, 1964, to Aug. 10, 1965, at site 0.2 mi (0.3 km) upstream at different datum.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. One small diversion above station to Canadian River drainage. Slight natural regulation by recreation lake, capacity, 1,250 acre-ft (1.54 hm³), since Dec. 11, 1963. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--31 years, 16.9 ft³/s (0.479 m³/s), 12,240 acre-ft/yr (15.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 290 ft³/s (8.21 m³/s) May 25, 1961, gage height, 3.15 ft (0.960 m), site and datum then in use, from rating curve extended above 160 ft³/s (4.5 m³/s); maximum gage height, 5.23 ft (1.594 m) May 28, 1979; no flow Dec. 11, 1963, to Apr. 30, 1964, caused by filling recreation lake upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 93 ft³/s (2.63 m³/s) at 0700 May 28, gage height, 4.02 ft (1.225 m), no peak above base of 100 ft³/s (2.8 m³/s); minimum daily, 1.8 ft³/s (0.051 m³/s) Nov. 3, Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	1.9	3.0	3.0	2.0	2.5	3.0	33	77	9.9	5.9	3.5
2	2.7	1.9	3.0	2.9	2.0	2.5	3.1	32	67	15	5.1	3.2
3	2.7	1.8	3.0	2.8	2.0	2.5	3.2	40	63	27	4.6	4.5
4	2.7	2.0	3.0	2.7	2.0	2.5	3.3	31	67	23	4.5	4.1
5	2.7	2.1	3.0	2.6	2.0	2.5	3.4	29	63	22	4.3	3.6
6	2.7	2.1	3.0	2.5	2.0	2.5	3.5	29	60	16	3.7	4.1
7	2.7	2.4	3.0	2.5	2.0	2.5	3.5	27	67	13	3.2	4.1
8	2.7	2.4	3.0	2.5	2.0	2.5	3.5	21	63	12	3.1	3.8
9	2.7	2.2	3.0	2.5	2.0	2.5	3.5	18	59	11	3.7	5.4
10	2.8	2.1	3.0	2.5	1.9	2.5	4.0	18	54	10	4.5	7.1
11	2.7	2.0	3.0	2.3	1.8	2.5	4.5	18	47	9.9	4.3	7.7
12	2.7	2.5	3.0	2.1	1.9	2.5	5.0	16	41	13	5.1	5.5
13	3.2	4.6	3.0	2.0	2.0	2.5	6.0	15	35	20	7.9	4.5
14	3.8	4.5	3.0	2.0	2.1	2.5	7.0	14	31	18	7.0	4.2
15	5.4	4.3	3.0	2.0	2.2	2.5	8.0	15	29	12	5.9	4.2
16	7.7	3.7	3.0	2.0	2.3	2.5	8.6	15	26	10	7.4	3.5
17	6.0	3.5	3.0	2.0	2.4	2.5	9.4	18	23	9.1	6.4	3.2
18	4.7	3.3	3.0	2.0	2.4	2.5	10	18	20	8.6	5.1	2.9
19	4.2	3.2	3.0	2.0	2.4	2.5	13	22	18	9.1	3.9	2.8
20	4.1	3.2	3.0	2.0	2.4	2.5	17	29	16	7.7	3.4	2.7
21	4.2	3.1	3.0	2.0	2.4	2.5	14	35	15	6.7	3.2	2.8
22	3.7	3.0	3.0	2.0	2.5	2.5	12	29	14	5.9	3.1	2.9
23	3.4	3.0	3.0	2.0	2.5	2.5	10	33	12	5.3	3.1	2.9
24	2.9	3.0	3.0	2.0	2.5	2.6	17	35	11	5.1	3.2	2.9
25	2.8	3.0	3.0	2.0	2.5	2.7	25	36	11	5.5	4.5	2.9
26	2.8	3.0	3.0	2.0	2.5	2.9	35	53	9.9	9.1	4.2	2.9
27	2.9	3.0	3.0	2.0	2.5	3.0	28	60	11	13	3.6	2.8
28	2.7	3.0	3.0	2.0	2.5	3.0	31	84	16	9.1	3.3	2.7
29	2.1	3.0	3.0	2.0	---	3.0	32	84	14	6.6	3.4	2.6
30	2.0	3.0	3.0	2.0	---	3.0	34	76	11	5.5	3.8	2.3
31	1.9	---	3.0	2.0	---	3.0	---	75	---	6.7	3.6	---
TOTAL	103.0	85.8	93.0	68.9	61.7	80.7	360.5	1058	1050.9	354.8	138.0	112.3
MEAN	3.32	2.86	3.00	2.22	2.20	2.60	12.0	34.1	35.0	11.4	4.45	3.74
MAX	7.7	4.6	3.0	3.0	2.5	3.0	35	84	77	27	7.9	7.7
MIN	1.9	1.8	3.0	2.0	1.8	2.5	3.0	14	9.9	5.1	3.1	2.3
AC-FT	204	170	184	137	122	160	715	2100	2080	704	274	223

CAL YR 1980 TOTAL 5354.3 MEAN 14.6 MAX 152 MIN 1.8 AC-FT 10620
WTR YR 1981 TOTAL 3567.6 MEAN 9.77 MAX 84 MIN 1.8 AC-FT 7080

NOTE.--NO GAGE-HEIGHT RECORD JAN. 19 TO MAY 5.

06619400 CANADIAN RIVER NEAR LINDLAND, CO

LOCATION.--Lat 40°41'43", long 106°03'56", in NE¼NE¼ sec.6, T.8 N., R.77 W., Jackson County, Hydrologic Unit 10180001, on right bank 1.1 mi (1.8 km) below mouth of Muddy Creek, 8.3 mi (13.4 km) north of Lindland, and 12 mi (19.3 km) east of Walden.

DRAINAGE AREA.--44.0 mi² (114 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 8,150 ft (2,484 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by numerous diversions for irrigation of hay meadows and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 177 ft³/s (5.01 m³/s) June 11, 1978, gage height, 4.18 ft (1.274 m); maximum gage height, 4.49 ft (1.369 m), May 20, 1978; minimum daily discharge, 2.7 ft³/s (0.076 m³/s) Feb. 5, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 146 ft³/s (4.13 m³/s) at 0800 June 9, gage height, 3.47 ft (1.058 m); minimum daily, 2.7 ft³/s (0.076 m³/s) Feb. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	7.6	5.6	5.4	3.0	5.0	12	21	65	18	13	11
2	5.9	8.7	5.6	5.0	3.0	5.0	12	19	67	24	12	9.8
3	5.9	8.4	5.6	4.5	3.0	5.0	13	24	80	42	11	11
4	5.9	8.7	5.6	4.3	2.9	5.0	13	27	95	40	11	10
5	5.9	9.1	5.6	4.0	2.7	5.0	13	24	92	28	10	8.7
6	5.9	8.7	5.6	3.7	2.8	5.2	14	23	71	21	9.4	10
7	5.9	9.1	5.6	3.5	3.0	5.4	15	25	99	19	9.4	11
8	5.9	9.1	5.6	3.3	3.0	5.6	15	21	125	19	8.7	11
9	5.4	9.8	5.6	3.1	3.0	5.8	15	19	130	17	9.4	12
10	5.2	8.7	5.6	3.0	3.0	6.0	16	20	119	17	11	13
11	5.4	8.7	5.6	3.0	3.0	6.0	17	19	95	17	10	14
12	5.7	8.7	5.6	3.0	3.0	6.0	18	19	76	18	13	12
13	5.7	9.8	5.6	3.0	3.0	6.0	19	19	62	38	16	10
14	5.9	9.8	5.6	3.0	3.0	6.2	20	19	53	29	14	11
15	5.9	9.0	5.6	3.0	3.1	6.6	21	17	42	20	13	11
16	6.9	8.0	5.6	3.0	3.5	7.0	20	19	36	17	16	11
17	9.1	7.6	5.6	3.0	3.6	7.0	23	32	30	17	13	9.8
18	8.7	7.0	5.6	3.0	3.7	7.0	20	30	30	17	11	9.8
19	9.1	6.4	5.6	3.0	3.8	7.4	24	22	28	15	10	9.1
20	9.4	6.0	5.6	3.0	3.9	7.8	33	22	26	14	9.4	9.1
21	9.1	5.6	5.6	3.0	4.0	8.4	21	26	25	13	9.8	9.1
22	9.4	5.6	5.6	3.0	4.1	8.8	17	27	25	12	9.4	9.1
23	8.4	5.6	5.6	3.0	4.2	9.0	15	35	26	11	10	9.1
24	6.9	5.6	5.6	3.0	4.3	9.4	21	30	27	11	9.4	8.7
25	5.9	5.6	5.6	3.0	4.5	9.6	24	32	24	12	12	8.7
26	6.9	5.6	5.6	3.0	4.7	9.8	23	37	24	15	11	8.7
27	7.2	5.6	5.6	3.0	4.9	10	23	38	22	19	11	8.4
28	7.2	5.6	5.6	3.0	5.0	11	21	62	28	14	9.8	8.4
29	6.8	5.6	5.6	3.0	---	11	22	56	27	11	9.4	8.4
30	7.0	5.6	5.6	3.0	---	11	22	67	21	11	10	8.0
31	5.9	---	5.6	3.0	---	12	---	64	---	12	10	---
TOTAL	210.6	224.9	173.6	102.8	98.7	230.0	562	915	1670	588	342.1	300.9
MEAN	6.79	7.50	5.60	3.32	3.53	7.42	18.7	29.5	55.7	19.0	11.0	10.0
MAX	9.4	9.8	5.6	5.4	5.0	12	33	67	130	42	16	14
MIN	5.2	5.6	5.6	3.0	2.7	5.0	12	17	21	11	8.7	8.0
AC-FT	418	446	344	204	196	456	1110	1810	3310	1170	679	597

CAL YR 1980 TOTAL 6523.9 MEAN 17.8 MAX 95 MIN 4.4 AC-FT 12940
WTR YR 1981 TOTAL 5418.6 MEAN 14.8 MAX 130 MIN 2.7 AC-FT 10750

NOTE.--NO GAGE-HEIGHT RECORD DEC. 9 TO APR. 10.

06619400 CANADIAN RIVER NEAR LINCLAND, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1978 to current year.
WATER TEMPERATURE: April 1978 to current year.
SUSPENDED SEDIMENT DISCHARGE: May 1978 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler since May 1978. Water-quality monitor since April 1978.

REMARKS.--Daily maximum and minimum specific conductance data available in district office. Water-quality monitor shut down from Nov. 13, 1980, to Apr. 10, 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 299 micromhos Aug. 26, 1980; minimum, 74 micromhos May 27, 1979.
WATER TEMPERATURES: Maximum, 24°C June 12, 1979; minimum, 0.0°C many days during winter period.
SEDIMENT CONCENTRATIONS: Maximum daily, 139 mg/L Apr. 27, 1980; minimum daily, 2 mg/L several days during winter months each year.
SEDIMENT LOADS: Maximum daily, 27 tons (24 t) Apr. 23, 1979; minimum daily, 0.02 ton (0.02 t) many days during winter months in 1979 and 1981.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 255 micromhos May 17; minimum, 86 micromhos June 15, 16.
WATER TEMPERATURE: Maximum, 22.5°C July 5-8; minimum, 0.0°C many days during October to April.
SEDIMENT CONCENTRATIONS: Maximum daily, 104 mg/L May 28; minimum daily, 2 mg/L several days in December and January.
SEDIMENT LOADS: Maximum daily, 25 tons (23 t) May 28; minimum daily, 0.02 ton (0.02 t) several days in January.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
NOV										
13...	1015	9.9	190	194	7.6	2.5	9.3	81	23	5.7
MAR										
25...	1600	9.4	240	254	7.7	.5	12.4	110	34	6.8
MAY										
29...	1015	59	110	101	7.6	10.5	8.3	44	13	2.9
JUN										
03...	1145	75	95	--	7.5	11.0	8.1	--	--	--
11...	1025	92	80	81	7.4	11.0	8.1	34	10	2.3
JUL										
23...	1615	21	135	131	7.8	19.0	6.6	56	17	3.3

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV									
13...	4.8	.2	1.3	58	36	1.0	.1	8.5	116
MAR									
25...	5.2	.2	1.5	62	54	.6	.1	9.4	150
MAY									
29...	3.5	.2	1.0	34	3.9	1.1	.1	4.5	51
JUN									
03...	--	--	--	--	--	--	--	--	--
11...	2.4	.2	1.1	19	.9	13	.1	6.4	48
JUL									
23...	3.3	.2	.9	43	2.0	3.8	.1	7.4	64

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV									
13...	.16	3.1	.01	.020	40	890	490	20	40
MAR									
25...	.20	3.8	.10	.000	10	610	260	80	80
MAY									
29...	.07	8.1	.06	.130	0	740	270	20	40
JUN									
03...	--	--	--	--	--	--	--	--	--
11...	.07	11.9	.03	.040	0	1000	130	50	30
JUL									
23...	.09	3.6	.03	.070	10	1300	600	30	20

DATE	TIME	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
APR												
29...	1540	300	8	--	--	--	--	--	--	0	7	--
JUN												
03...	1145	780	1	1	1	0	<1	4	2	5	3	.1
11...	1025	340	10	0	0	0	<1	4	1	7	0	.0

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
APR											
29...	--	--	--	--	--	--	--	10	10	7.3	6.6
JUN											
03...	.0	0	<10	2	2	0	0	10	4	9.0	8.8
11...	.1	0	<10	4	2	0	0	20	20	7.2	7.6

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT				
01...	1530	5.7	7	.11
08...	1000	5.4	10	.15
13...	1430	52	13	1.8
19...	1030	8.0	9	.19
22...	0845	8.4	6	.14
25...	1145	4.4	7	.08
27...	1600	7.6	14	.29
29...	1120	6.8	14	.26
29...	1400	6.8	8	.15
NOV				
01...	1300	7.3	8	.16
04...	1530	8.4	11	.25
08...	1100	9.1	7	.17
13...	0945	11	10	.29
DEC				
09...	1045	5.5	3	.04
APR				
29...	1420	23	22	1.4
MAY				
05...	1500	22	10	.60
14...	1645	19	8	.40
19...	1700	22	9	.54
20...	0820	23	15	.94

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
MAY				
25...	1930	30	22	1.8
29...	1040	59	62	9.9
30...	1330	81	92	20
JUN				
01...	1845	63	37	6.3
03...	0855	80	60	13
05...	1640	97	59	15
08...	1730	118	77	25
10...	1730	105	48	14
11...	1015	102	52	14
13...	1330	65	29	5.1
16...	1630	34	24	2.2
16...	1745	34	19	1.7
30...	1130	21	2	.14
30...	1135	21	9	.52
JUL				
06...	1545	19	6	.31
09...	1800	16	10	.43
16...	1830	17	7	.31
18...	--	17	7	.31
20...	--	15	6	.23
22...	1545	12	5	.16

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
JUL				
22...	1550	12	15	.48
27...	2000	17	12	.55
30...	1715	10	5	.14
AUG				
02...	1930	11	13	.38
06...	1800	9.1	7	.17
13...	0830	16	19	.82
13...	0835	16	21	.91
16...	1020	16	15	.63

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
AUG				
19...	1800	11	8	.23
23...	0900	11	11	.34
26...	1800	11	7	.22
30...	0900	11	10	.31
SEP				
03...	1800	15	12	.47
07...	1530	12	7	.22
08...	1200	12	5	.16

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	189	185					---	142	97	135	123	142
2	183	190					---	158	103	147	120	137
3	191	190					---	154	110	148	117	146
4	184	197					---	163	137	132	120	137
5	176	193					---	146	133	125	122	144
6	177	198					---	167	131	123	125	150
7	192	198					---	163	148	124	128	140
8	190	194					---	154	131	125	135	141
9	186	184					---	158	121	136	132	166
10	195	192					---	155	117	145	129	177
11	192	188					180	154	114	152	134	168
12	193	191					168	163	104	158	138	145
13	200	---					167	175	91	132	136	141
14	204	---					170	171	90	131	132	135
15	213	---					163	164	88	135	135	137
16	193	---					160	182	87	141	137	135
17	195	---					127	231	89	138	126	138
18	206	---					137	188	91	134	129	138
19	202	---					132	168	100	127	133	142
20	212	---					145	159	104	124	133	143
21	211	---					139	177	101	123	135	143
22	210	---					148	178	97	128	139	148
23	206	---					162	186	102	137	139	145
24	192	---					155	158	---	141	141	151
25	194	---					141	169	---	139	147	154
26	200	---					142	164	---	137	141	155
27	198	---					138	150	---	114	141	153
28	190	---					142	126	---	114	142	154
29	181	---					140	101	---	128	141	155
30	176	---					138	91	---	136	138	158
31	190	---					---	93	---	134	140	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11.5	8.0	4.5	.0								
2	11.0	6.0	4.0	1.0								
3	10.5	5.5	3.5	.0								
4	11.0	5.5	4.0	2.0								
5	11.0	6.0	5.5	1.5								
6	11.0	6.0	6.0	2.5								
7	11.5	6.0	7.5	4.5								
8	11.0	6.0	6.0	1.5								
9	11.0	5.5	3.5	.0								
10	9.5	5.0	4.5	.0								
11	9.0	4.0	4.0	.0								
12	8.0	4.5	4.5	2.5								
13	8.5	6.0	---	---								
14	8.0	5.5	---	---								
15	8.5	5.0	---	---								
16	5.0	2.0	---	---								
17	2.5	.5	---	---								
18	3.0	.0	---	---								
19	5.5	1.0	---	---								
20	6.0	2.0	---	---								
21	6.0	2.5	---	---								
22	6.0	3.5	---	---								
23	3.5	1.5	---	---								
24	3.5	.0	---	---								
25	4.5	.0	---	---								
26	2.5	.0	---	---								
27	3.0	1.0	---	---								
28	1.5	.0	---	---								
29	2.0	.0	---	---								
30	3.0	.0	---	---								
31	4.0	.0	---	---								

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	14.5	6.5	15.5	7.5	19.5	15.0	19.5	15.0	17.0	10.5
2	---	---	12.5	9.0	17.5	9.5	18.0	15.0	22.5	14.0	15.5	12.0
3	---	---	10.5	8.5	14.5	11.0	16.5	13.0	22.5	15.5	17.5	12.0
4	---	---	12.5	5.5	17.5	10.0	19.5	11.5	22.0	15.5	19.0	12.5
5	---	---	12.5	6.0	19.0	11.0	22.5	13.0	22.5	14.0	17.0	13.0
6	---	---	10.0	6.5	18.5	11.0	22.5	14.5	21.0	14.0	16.0	14.0
7	---	---	11.5	4.5	17.0	11.5	22.5	16.0	21.5	13.5	18.0	12.5
8	---	---	8.0	4.5	18.0	10.5	22.0	15.5	20.5	13.5	15.5	12.0
9	---	---	10.5	3.0	17.5	11.0	20.5	15.5	18.5	15.0	15.5	11.0
10	---	---	11.5	5.0	18.0	11.5	21.5	15.0	17.5	13.0	15.5	11.5
11	.5	.0	9.5	6.0	19.0	10.5	21.5	15.0	18.0	12.5	17.0	11.0
12	2.5	.0	7.5	4.0	18.5	11.5	20.0	16.5	16.5	13.5	17.0	11.5
13	3.5	.0	10.0	3.0	16.0	11.0	17.0	13.0	16.5	13.0	15.5	12.0
14	6.0	.0	13.0	5.0	11.5	7.5	21.0	13.0	18.5	12.5	15.0	11.0
15	5.0	.0	11.0	8.5	10.0	5.5	22.0	14.5	16.0	13.0	15.5	11.0
16	8.5	.5	8.5	5.0	14.5	5.5	20.0	16.5	20.0	12.5	16.5	11.0
17	6.0	.0	7.5	3.0	15.0	8.5	17.5	15.0	20.5	13.0	15.0	10.0
18	7.5	.5	9.0	4.5	14.0	9.0	20.0	13.0	20.0	13.0	14.5	8.5
19	6.5	1.0	11.5	5.0	16.5	10.0	20.5	14.0	20.5	13.0	13.0	9.5
20	5.5	.0	11.0	8.0	17.5	11.0	20.0	13.5	20.0	14.0	14.5	9.5
21	6.5	.5	9.0	5.0	18.5	11.5	21.0	14.0	18.5	13.0	15.0	11.5
22	5.0	1.5	9.0	5.0	20.0	12.0	20.5	13.5	19.0	14.0	14.5	11.5
23	9.5	1.0	11.5	6.0	18.0	12.5	21.0	13.0	20.5	13.0	15.5	10.5
24	12.5	3.5	12.0	6.0	---	---	21.0	14.5	17.5	13.5	14.0	12.0
25	10.0	4.5	13.0	7.0	---	---	19.5	14.5	18.5	12.0	13.0	10.5
26	12.5	4.5	13.0	9.0	---	---	17.0	13.0	17.5	12.5	13.0	9.0
27	10.0	5.5	14.0	9.5	---	---	17.0	11.5	18.5	12.5	13.5	8.5
28	13.0	6.0	15.5	9.5	---	---	19.5	11.5	18.5	13.0	13.5	9.0
29	12.5	6.5	15.0	10.0	---	---	20.0	13.0	17.5	13.0	12.0	9.5
30	11.5	8.0	17.5	7.5	---	---	19.0	14.0	18.5	12.5	11.0	9.0
31	---	---	12.5	10.0	---	---	20.5	13.5	16.0	13.0	---	---

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	6.2	7	.12	7.6	8	.16	5.6	---	.06
2	5.9	---	.12	8.7	---	.20	5.6	---	.03
3	5.9	---	.12	8.4	---	.22	5.6	2	.03
4	5.9	---	.12	8.7	10	.23	5.6	---	.03
5	5.9	---	.14	9.1	---	.23	5.6	2	.03
6	5.9	---	.14	8.7	---	.22	5.6	---	.03
7	5.9	---	.14	9.1	---	.19	5.6	---	.05
8	5.9	9	.14	9.1	7	.17	5.6	---	.05
9	5.4	8	.12	9.8	---	.20	5.6	3	.05
10	5.2	12	.17	8.7	---	.20	5.6	---	.05
11	5.4	10	.15	8.7	---	.20	5.6	---	.08
12	5.7	10	.15	8.7	---	.20	5.6	5	.08
13	5.7	10	.15	9.8	10	.26	5.6	---	.08
14	5.9	---	.15	9.8	---	.26	5.6	---	.06
15	5.9	---	.15	9.0	---	.25	5.6	4	.06
16	6.9	---	.20	8.0	---	.20	5.6	---	.06
17	9.1	---	.25	7.6	---	.20	5.6	4	.06
18	8.7	---	.25	7.0	9	.17	5.6	---	.06
19	9.1	---	.24	6.4	---	.15	5.6	4	.06
20	9.4	---	.50	6.0	---	.10	5.6	---	.05
21	9.1	---	.37	5.6	---	.10	5.6	---	.05
22	9.4	---	.20	5.6	---	.10	5.6	---	.03
23	8.4	---	.18	5.6	7	.10	5.6	2	.03
24	6.9	---	.18	5.6	---	.10	5.6	---	.03
25	5.9	10	.16	5.6	---	.10	5.6	---	.03
26	6.9	---	.18	5.6	---	.08	5.6	2	.03
27	7.2	12	.23	5.6	---	.08	5.6	---	.03
28	7.2	---	.20	5.6	---	.08	5.6	---	.03
29	6.8	10	.18	5.6	---	.06	5.6	---	.03
30	7.0	---	.20	5.6	---	.06	5.6	---	.04
31	5.9	---	.16	---	---	---	5.6	---	.04

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	5.4	3	.04	3.0	6	.05	5.0	10	.14
2	5.0	---	.04	3.0	---	.05	5.0	---	.15
3	4.5	3	.04	3.0	---	.05	5.0	---	.15
4	4.3	---	.03	2.9	8	.06	5.0	---	.15
5	4.0	3	.03	2.7	---	.06	5.0	---	.15
6	3.7	---	.03	2.8	12	.09	5.2	---	.15
7	3.5	3	.03	3.0	---	.09	5.4	---	.15
8	3.3	---	.03	3.0	---	.09	5.6	---	.15
9	3.1	3	.03	3.0	12	.10	5.8	---	.15
10	3.0	---	.02	3.0	---	.08	6.0	---	.16
11	3.0	3	.02	3.0	---	.03	6.0	---	.16
12	3.0	---	.02	3.0	---	.03	6.0	10	.16
13	3.0	3	.02	3.0	4	.03	6.0	---	.16
14	3.0	---	.02	3.0	---	.05	6.2	10	.17
15	3.0	3	.02	3.1	---	.06	6.6	---	.18
16	3.0	---	.02	3.5	8	.08	7.0	10	.19
17	3.0	---	.02	3.6	---	.07	7.0	---	.18
18	3.0	3	.02	3.7	---	.05	7.0	---	.17
19	3.0	---	.02	3.8	3	.03	7.4	---	.15
20	3.0	---	.02	3.9	---	.05	7.8	7	.15
21	3.0	3	.02	4.0	---	.08	8.4	---	.15
22	3.0	---	.02	4.1	8	.09	8.8	---	.15
23	3.0	3	.02	4.2	---	.09	9.0	6	.15
24	3.0	---	.02	4.3	---	.08	9.4	---	.15
25	3.0	---	.02	4.5	---	.08	9.6	---	.20
26	3.0	---	.02	4.7	6	.08	9.8	---	.30
27	3.0	2	.02	4.9	10	.12	10	12	.32
28	3.0	3	.02	5.0	---	.12	11	---	.30
29	3.0	5	.04	---	---	---	11	5	.15
30	3.0	---	.04	---	---	---	11	---	.20
31	3.0	---	.04	---	---	---	12	7	.23

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	12	---	.40	21	---	---	65	46	8.1
2	12	12	.39	19	---	---	67	36	6.5
3	13	---	.35	24	---	---	80	46	9.9
4	13	10	.35	27	---	---	95	66	17
5	13	---	.35	24	---	---	92	60	15
6	14	9	.34	23	---	---	71	38	7.3
7	15	---	.35	25	---	---	99	74	20
8	15	---	.35	21	---	---	125	95	32
9	15	---	.35	19	---	---	130	65	23
10	16	---	.50	20	---	---	119	53	17
11	17	---	.70	19	---	---	95	36	9.2
12	18	---	.90	19	---	---	76	29	6.0
13	19	---	1.1	19	---	---	62	31	5.2
14	20	---	1.3	19	---	---	53	23	3.3
15	21	24	1.4	17	12	.55	42	22	2.5
16	20	---	---	19	---	.55	36	22	2.1
17	23	---	---	32	---	.75	30	27	2.2
18	20	---	---	30	---	.75	30	26	2.1
19	24	---	---	22	9	.53	28	22	1.7
20	33	---	---	22	---	---	26	27	1.9
21	21	---	---	26	---	---	25	21	1.4
22	17	---	---	27	---	---	25	24	1.6
23	15	---	---	35	---	---	26	28	2.0
24	21	---	---	30	---	---	27	20	1.5
25	24	---	---	32	---	---	24	20	1.3
26	23	---	---	37	---	---	24	20	1.3
27	23	---	---	38	---	---	22	20	1.2
28	21	---	---	62	104	25	28	28	2.1
29	22	---	---	56	---	---	27	21	1.5
30	22	---	---	67	---	---	21	18	1.0
31	---	---	---	64	---	---	---	---	---

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	18	15	.73	13	7	.25	11	9	.27
2	24	27	1.7	12	5	.16	9.8	8	.21
3	42	68	7.9	11	7	.21	11	8	.24
4	40	62	7.5	11	7	.21	10	8	.22
5	28	21	1.6	10	4	.11	8.7	8	.19
6	21	14	.79	9.4	5	.13	10	9	.24
7	19	11	.56	9.4	5	.13	11	8	.24
8	19	12	.62	8.7	3	.07	11	9	.26
9	17	10	.46	9.4	3	.08	12	---	---
10	17	7	.32	11	4	.12	13	---	---
11	17	11	.50	10	3	.08	14	---	---
12	18	19	.92	13	5	.18	12	---	---
13	38	53	5.4	16	15	.65	10	---	---
14	29	40	3.1	14	21	.79	11	---	---
15	20	12	.65	13	18	.63	11	---	---
16	17	8	.39	16	17	.73	11	---	---
17	17	---	.30	13	13	.46	9.8	---	---
18	17	5	.21	11	12	.36	9.8	---	---
19	15	---	.15	10	9	.24	9.1	---	---
20	14	4	.14	9.4	8	.20	9.1	---	---
21	13	---	.15	9.8	8	.21	9.1	---	---
22	12	6	.19	9.4	9	.23	9.1	---	---
23	11	8	.24	10	8	.22	9.1	---	---
24	11	11	.33	9.4	8	.20	8.7	---	---
25	12	6	.19	12	8	.26	8.7	---	---
26	15	11	.45	11	7	.21	8.7	---	---
27	19	11	.56	11	6	.18	8.4	---	---
28	14	7	.26	9.8	7	.19	8.4	---	---
29	11	8	.24	9.4	7	.18	8.4	---	---
30	11	5	.15	10	8	.22	8.0	---	---
31	12	6	.19	10	8	.22	---	---	---
TOTAL	588	---	36.89	342.1	---	8.11	300.9	---	1.87
YEAR	5418.6		311.30						

06619415 BUSH DRAW NEAR WALDEN, CO

LOCATION.--Lat 40°44'34", long 106°05'42", in SW¼SE¼ sec.13, T.9 N., R.78 W., Jackson County, Hydrologic Unit 10180001, on left bank 1,500 ft (457 m) above Canadian River and 9.8 mi (15.8 km) east of Walden.

Drainage area.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to September 1981 (seasonal record only).

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 8,070 ft (2,460 m), from topographic map.

REMARKS.--Records good. No diversion above station. Slight regulation by small ponds.

EXTREMES FOR PERIOD APRIL TO SEPTEMBER 1981.--Maximum discharge, 1.0 ft³/s (0.028 m³/s) at 1915 July 12, gage height, 10.47 ft (1.319 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

July 12 0.03

06619420 WILLIAMS DRAW NEAR WALDEN, CO

LOCATION.--Lat 40°44'17", long 106°06'49", in NW¼NE¼ sec.23, T.9 N., R.78 W., Jackson County, Hydrologic Unit 10180001, on left bank 1,200 ft (366 m) above small dam, 1.2 mi (1.9 km) above Canadian River and 8.8 mi (14.3 km) east of Walden.

DRAINAGE AREA.--3.95 mi² (10.23 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1979 to current year (seasonal record only).

GAGE.--Water-stage recorder. Altitude of gage is 8,110 ft (2,472 m), from topographic map.

REMARKS.--Records good. No diversion above station. Slight regulation by small ponds.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22 ft³/s (0.62 m³/s) Apr. 21, 1980, gage height, 11.76 ft (3.584 m), result of indirect determination of peak flow; no flow many days.

EXTREMES FOR CURRENT YEAR.--No flow entire year.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1980 to current year.

REMARKS.--No flow entire year.

06619450 CANADIAN RIVER NEAR BROWNLEE, CO

LOCATION.--Lat 40°48'29" (revised), long 106°14'09", in NE¼SW¼ sec.26, T.10 N., R.79 W., Jackson County, Hydrologic Unit 10180001, on right bank 3.1 mi (5.0 km) east of Brownlee, 3.9 mi (6.3 km) below mouth of Coon Creek, and 4.7 mi (7.6 km) north of Walden.

DRAINAGE AREA.--158 mi² (409 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,930 ft (2,417 m) from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by numerous diversions for irrigation of hay meadows and return flows from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 352 ft³/s (9.97 m³/s) Apr. 23, 1980, gage height, 4.29 ft (1.308 m); maximum gage height, 4.92 ft (1.500 m) at 1700 Apr. 22, 1980 (backwater from ice); minimum daily discharge, 2.6 ft³/s (0.074 m³/s) Sept. 9, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 140 ft³/s (3.96 m³/s) at 1215 June 10, gage height, 2.63 ft (0.802 m); minimum daily, 2.8 ft³/s (0.079 m³/s) Apr. 30, May 2, 3, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	16	9.0	8.2	3.5	9.0	15	3.8	77	13	12	11
2	8.4	17	9.0	7.2	3.5	9.0	16	2.8	76	12	13	11
3	8.4	15	9.0	6.6	3.5	9.2	17	2.8	76	20	12	17
4	8.0	14	9.0	6.4	3.3	9.2	18	4.4	95	35	11	15
5	8.4	14	9.0	6.0	3.2	9.4	19	3.1	107	35	8.8	15
6	8.4	13	9.0	5.5	3.4	9.4	22	2.8	98	24	8.0	17
7	8.0	12	9.0	5.2	3.5	9.4	23	3.5	95	17	7.6	15
8	7.6	12	9.0	4.9	3.5	9.4	20	3.8	108	13	7.6	15
9	7.6	14	9.0	4.5	3.5	9.6	24	3.3	120	10	8.0	16
10	7.6	17	9.0	4.2	3.5	9.8	27	3.5	132	11	11	20
11	7.6	15	9.0	3.9	3.5	10	41	4.0	123	11	12	24
12	7.6	14	9.0	3.6	3.5	10	52	4.4	99	12	15	24
13	8.0	13	9.0	3.5	3.5	10	51	4.2	72	25	17	20
14	9.4	12	9.0	3.5	3.5	10	36	8.8	57	53	17	17
15	12	11	9.0	3.5	3.7	11	32	9.4	58	51	16	16
16	16	11	9.0	3.5	4.1	11	20	16	52	37	16	15
17	19	10	9.0	3.5	4.5	11	12	36	80	30	16	14
18	19	10	9.0	3.5	5.0	12	14	40	31	31	14	14
19	17	9.0	9.0	3.5	5.6	12	12	38	29	30	10	13
20	17	9.4	9.0	3.5	6.4	12	19	32	23	25	8.4	12
21	19	9.2	9.0	3.5	7.0	12	25	36	19	17	8.0	12
22	19	9.0	9.0	3.5	7.4	12	19	41	16	14	8.4	12
23	17	9.0	9.0	3.5	7.4	12	18	48	12	16	8.0	12
24	18	9.0	9.0	3.5	7.8	13	14	54	11	12	8.4	12
25	17	9.0	9.0	3.5	8.0	13	11	55	11	13	11	12
26	17	9.0	9.0	3.5	8.4	13	11	46	8.8	17	12	13
27	17	9.0	9.0	3.5	8.8	13	12	40	8.8	22	12	13
28	16	9.0	9.0	3.5	9.0	13	12	50	15	23	11	11
29	16	9.0	9.0	3.5	---	13	3.8	67	16	20	11	11
30	20	9.0	9.0	3.5	---	14	2.8	64	17	16	12	11
31	20	---	9.0	3.5	---	15	---	78	---	14	11	---
TOTAL	409.8	349.6	279.0	132.7	141.5	345.4	618.6	805.6	1738.6	679	353.2	440
MEAN	13.2	11.6	9.00	4.28	5.05	11.1	20.6	26.0	58.0	21.9	11.4	14.7
MAX	20	17	9.0	8.2	9.0	15	52	78	132	53	17	24
MIN	7.6	9.0	9.0	3.5	3.2	9.0	2.8	2.8	8.8	10	7.6	11
AC-FT	813	693	553	263	281	685	1220	1600	3450	1350	701	873

CAL YR 1980 TOTAL 12494.4 MEAN 34.1 MAX 301 MIN 4.4 AC-FT 24780
WTR YR 1981 TOTAL 6290.8 MEAN 17.2 MAX 132 MIN 2.8 AC-FT 12480

NOTE.--NO GAGE-HEIGHT RECORD NOV. 16 TO MAR. 24.

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1978 to current year.
WATER TEMPERATURE: April 1978 to current year.
SUSPENDED SEDIMENT DISCHARGE: May 1978 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler since May 1978. Water-quality monitor since April 1978.

REMARKS.--Daily maximum and minimum specific conductance data available in district office. Water-quality monitor shut down Nov. 13, 1980, to Mar. 24, 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 494 micromhos May 7, 1981; minimum, 147 micromhos June 4, 1980.
WATER TEMPERATURES: Maximum, 29.5°C July 6, 1981; minimum, 0.0°C many days during winter period.
SEDIMENT CONCENTRATIONS: Maximum daily, 282 mg/L Apr. 26, 1980; minimum daily, 1 mg/L Dec. 21, 1980.
SEDIMENT LOADS: Maximum daily, 176 tons (160 t) Apr. 24, 1980; minimum daily, 0.02 ton (0.02 t) on many days during winter months in 1978.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 494 micromhos May 17; minimum, 182 micromhos Apr. 11.
WATER TEMPERATURES: Maximum, 29.5°C July 6; minimum, 0.0°C many days during October to April.
SEDIMENT CONCENTRATIONS: Maximum, 133 mg/L Apr. 12; minimum daily, 1 mg/L Dec. 21.
SEDIMENT LOADS: Maximum daily, 176 tons (160 t) Apr. 24; minimum daily, 0.02 ton (0.02 t) Dec. 21, Jan. 24, 25.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
NOV										
13...	1600	14	292	--	8.0	2.5	9.6	120	33	8.9
MAR										
25...	1830	14	308	318	7.5	.0	10.0	140	39	9.3
APR										
29...	1930	4.1	380	388	--	16.5	7.3	160	47	11
MAY										
19...	1725	30	445	445	8.2	15.0	7.4	180	50	13
29...	0845	69	350	357	8.0	10.5	8.1	170	50	12
JUN										
03...	1815	74	220	--	7.1	17.0	6.5	--	--	--
11...	1445	133	--	233	7.6	20.0	6.4	90	24	7.2
JUL										
23...	1230	16	280	287	8.4	20.0	7.5	130	36	8.6

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV									
13...	10	.4	1.7	--	42	1.3	.2	9.4	167
MAR									
25...	11	.4	2.0	97	51	1.5	.2	9.8	183
APR									
29...	17	.6	2.9	140	56	1.0	.2	8.9	229
MAY									
19...	19	.6	3.2	120	110	2.2	.2	12	282
29...	15	.5	2.0	130	62	1.3	.2	13	234
JUN									
03...	--	--	--	--	--	--	--	--	--
11...	7.9	.4	1.7	86	3.7	.5	.2	12	109
JUL									
23...	11	.4	1.4	120	3.0	1.0	.1	9.3	143

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 13...	.23	6.5	.07	.020	60	680	130	20	20
MAR 25...	.25	6.7	.11	.000	30	420	360	50	40
APR 29...	.31	2.5	.01	.010	30	290	60	70	60
MAY 19...	.38	22.5	.07	.050	30	480	90	60	40
29...	.32	43.6	.04	.040	30	330	240	30	10
JUN 03...	--	--	--	--	--	--	--	--	--
11...	.15	39.1	.01	.020	20	830	120	50	20
JUL 23...	.19	6.2	.03	.030	30	660	240	40	20

DATE	TIME	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
APR 29...	1930	80	8	--	--	--	--	--	--	0	4	--
JUN 03...	1815	200	1	1	1	0	<1	3	1	2	3	.1
11...	1445	100	0	1	1	2	<1	5	2	25	5	.1

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
APR 29...	--	--	--	--	--	--	--	20	6	8.6	7.8
JUN 03...	.0	2	<10	2	1	0	0	10	6	15	16
11...	.4	2	<10	4	3	0	0	0	4	16	12

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT				
01...	1430	8.8	11	.26
08...	1600	7.6	14	.29
13...	1530	8.0	13	.28
19...	0930	17	18	.83
22...	0930	19	22	1.1
24...	1315	14	13	.49
25...	1045	17	23	1.1
NOV				
01...	1030	21	51	2.9
05...	1530	13	12	.42
08...	1000	13	29	1.0
13...	1515	14	17	.64
13...	1520	14	16	.60
APR				
08...	1530	17	28	1.3
08...	1535	17	25	1.1
12...	0930	53	167	24
14...	0930	39	71	7.5
16...	1130	21	24	1.4
16...	1135	21	31	1.8
18...	1830	12	16	.52
28...	2000	13	14	.49
APR				
29...	1800	3.1	8	.07
29...	1805	3.1	5	.04
30...	0800	2.8	7	.05
MAY				
04...	1500	5.3	7	.10
09...	0930	3.8	7	.07
11...	1900	4.7	3	.04
14...	1730	11	8	.24
19...	1430	38	8	.82
19...	1435	38	25	2.6
24...	1100	53	32	4.6
26...	1545	39	12	1.3
29...	0745	68	63	12
29...	0750	68	58	11
29...	1745	71	37	7.1
JUN				
01...	0015	77	60	12
03...	1700	71	38	7.3
03...	1715	71	34	6.5
04...	1620	99	62	17
08...	1440	111	60	18
JUN				
10...	1400	134	62	22
11...	1410	133	73	26
11...	1415	133	46	17
11...	1700	120	48	16
13...	1100	71	63	12
15...	1130	55	33	4.9
17...	0820	46	16	2.0
18...	2015	25	10	.67
22...	1730	12	6	.19
JUL				
07...	1445	19	10	.51
07...	1615	17	11	.50
09...	1900	11	3	.09
13...	1900	28	45	3.4
17...	1045	32	24	2.1
20...	1700	24	16	1.0
23...	1015	18	11	.53
27...	1630	24	29	1.9
30...	1615	16	13	.56
AUG				
02...	1500	15	12	.49
06...	1700	8.0	6	.13
AUG				
11...	1630	14	29	1.1
13...	1710	19	15	.77
13...	1715	19	22	1.1
16...	1120	16	10	.43
19...	1620	11	7	.21
23...	1045	8.4	7	.16
26...	1630	13	16	.56
30...	1000	12	10	.32
SEP				
02...	1500	11	8	.24
07...	1400	16	10	.43
08...	1330	14	7	.26
08...	1335	14	8	.30
12...	1600	24	25	1.6
20...	1400	12	14	.45
23...	2000	13	10	.35
26...	1100	13	7	.25
30...	1900	11	4	.12

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	293	310				---	276	364	291	391	267	256
2	295	297				---	255	393	290	400	255	257
3	296	306				---	273	367	291	375	252	248
4	304	296				---	---	367	298	363	255	271
5	300	296				---	---	429	324	365	257	253
6	298	297				---	---	425	311	396	258	261
7	297	300				---	---	406	304	---	259	280
8	295	297				---	---	408	278	376	256	262
9	308	292				---	248	444	248	384	255	253
10	296	287				---	217	457	234	377	257	247
11	291	289				---	209	454	237	366	254	253
12	291	293				---	228	456	244	355	267	266
13	298	---				---	226	467	252	324	266	279
14	299	---				---	226	471	268	286	257	271
15	307	---				---	223	439	269	286	246	259
16	295	---				---	233	405	281	290	246	254
17	294	---				---	282	391	301	276	240	250
18	299	---				---	295	409	315	279	244	249
19	304	---				---	300	433	327	267	249	251
20	312	---				---	288	418	335	284	248	254
21	315	---				---	273	390	346	300	249	257
22	316	---				---	273	375	358	302	247	261
23	312	---				---	290	370	368	282	245	263
24	312	---				---	317	390	372	282	244	264
25	316	---				334	335	381	376	279	240	266
26	317	---				328	344	383	392	281	254	276
27	308	---				308	334	390	402	280	252	276
28	318	---				316	331	368	383	258	256	279
29	331	---				334	364	344	376	251	257	280
30	323	---				344	371	329	373	259	260	281
31	313	---				307	---	318	---	269	268	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.0	5.5	6.0	.0							---	---
2	14.0	2.0	6.5	.0							---	---
3	14.5	1.5	5.0	.5							---	---
4	15.0	1.5	7.0	1.0							---	---
5	14.5	2.0	8.5	.5							---	---
6	16.0	3.0	7.5	.0							---	---
7	16.0	3.5	9.0	2.5							---	---
8	15.5	3.0	4.0	.0							---	---
9	15.5	3.5	7.0	.0							---	---
10	15.0	3.0	7.0	.0							---	---
11	13.5	1.5	5.5	.0							---	---
12	12.0	3.0	7.5	1.5							---	---
13	12.0	6.0	---	---							---	---
14	11.0	5.0	---	---							---	---
15	11.5	4.0	---	---							---	---
16	5.5	.0	---	---							---	---
17	5.5	.0	---	---							---	---
18	5.0	2.0	---	---							---	---
19	9.5	1.0	---	---							---	---
20	9.5	1.0	---	---							---	---
21	9.5	1.5	---	---							---	---
22	7.5	2.5	---	---							---	---
23	3.5	.5	---	---							---	---
24	4.0	.5	---	---							---	---
25	4.5	.0	---	---							.5	.0
26	2.0	.0	---	---							.5	.0
27	2.5	.0	---	---							.5	.0
28	.5	.0	---	---							.5	.0
29	2.5	.0	---	---							.5	.0
30	3.5	.0	---	---							.0	.0
31	4.5	.0	---	---							.5	.0

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	.5	.0	19.0	6.0	20.0	9.0	25.0	14.5	24.5	13.5	22.0	8.0
2	1.0	.0	14.5	9.0	23.5	10.0	19.5	15.0	27.0	12.0	18.0	10.0
3	.5	.0	11.5	5.0	19.5	12.5	23.0	13.5	27.0	13.5	20.5	10.5
4	---	---	18.5	6.0	22.5	12.0	23.5	12.5	25.0	13.5	23.0	11.0
5	---	---	20.0	5.0	24.0	13.0	27.5	13.5	27.0	11.0	19.5	11.5
6	---	---	12.5	6.0	23.0	14.5	29.5	14.5	26.0	12.0	21.0	13.0
7	---	---	13.5	3.5	20.5	13.5	27.0	15.0	25.5	11.5	22.5	11.0
8	---	---	10.5	1.5	21.0	12.5	29.0	15.0	23.5	10.5	21.5	10.0
9	9.5	.0	15.0	1.0	21.0	14.0	24.5	14.0	21.5	13.0	21.0	9.5
10	10.5	.0	16.0	2.5	21.0	13.5	25.0	13.5	21.5	10.5	19.5	11.5
11	8.5	.0	10.5	4.0	23.0	13.5	25.5	13.0	22.0	10.5	19.5	10.5
12	10.0	.0	12.5	.0	23.0	14.5	23.0	14.0	19.0	12.0	22.0	10.0
13	9.5	1.0	18.0	1.0	21.5	12.5	22.0	13.5	20.0	12.0	21.5	11.0
14	12.0	.5	20.0	1.5	12.5	8.5	24.5	14.5	21.5	11.5	20.0	10.5
15	9.5	3.5	12.5	5.0	16.0	6.0	25.0	15.5	19.5	13.0	21.0	10.0
16	14.0	3.5	7.5	3.0	20.0	7.0	22.5	16.5	22.0	12.0	21.5	10.0
17	11.5	4.0	8.5	1.0	19.5	9.0	19.5	15.5	24.0	11.0	20.5	8.0
18	15.5	3.5	14.0	4.0	19.0	9.0	23.0	12.5	24.5	11.5	20.0	7.0
19	12.0	6.5	16.5	4.0	22.5	10.5	23.0	13.5	26.0	11.0	16.0	8.0
20	11.5	4.0	13.0	7.5	23.0	11.0	23.5	12.5	23.5	12.5	18.5	8.0
21	7.5	3.0	11.0	5.0	22.0	11.0	24.5	12.0	22.5	11.5	18.0	10.5
22	7.0	2.0	10.5	4.0	25.5	10.0	24.0	11.5	23.0	12.5	19.0	10.5
23	14.5	.0	14.0	6.5	23.5	11.0	24.5	10.5	22.5	10.5	19.5	8.5
24	18.0	4.0	15.0	6.5	25.0	10.5	25.0	12.0	21.0	10.0	16.5	11.0
25	19.0	6.5	15.0	7.0	26.5	11.0	22.0	12.0	22.0	9.0	15.5	9.0
26	17.5	5.0	16.5	9.5	26.5	13.0	21.0	11.5	22.5	10.5	15.0	6.5
27	15.5	5.5	17.0	10.0	25.5	13.5	21.5	10.5	24.5	11.0	18.0	5.0
28	18.5	6.0	19.5	9.0	22.0	13.5	23.5	11.5	22.0	11.0	16.5	6.5
29	19.5	5.5	19.5	11.0	25.0	10.5	23.0	12.0	21.0	11.0	15.5	7.0
30	14.5	7.5	23.0	8.5	27.0	12.5	22.5	12.0	22.0	11.0	16.5	6.5
31	---	---	17.0	12.0	---	---	24.0	12.0	20.0	11.0	---	---

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	8.8	11	.26	16	26	1.1	9.0	---	.07
2	8.4	---	.23	17	14	.64	9.0	---	.06
3	8.4	---	.23	15	20	.81	9.0	2	.05
4	8.0	---	.21	14	18	.68	9.0	---	.09
5	8.4	---	.21	14	14	.53	9.0	5	.12
6	8.4	---	.20	13	18	.63	9.0	---	.14
7	8.0	---	.19	12	20	.65	9.0	---	.15
8	7.6	9	.18	12	23	.75	9.0	7	.17
9	7.6	6	.12	14	16	.60	9.0	---	.15
10	7.6	4	.08	17	19	.87	9.0	---	.15
11	7.6	6	.12	15	17	.69	9.0	---	.13
12	7.6	8	.16	14	19	.72	9.0	5	.12
13	8.0	10	.22	13	17	.60	9.0	---	.10
14	9.4	12	.30	12	---	.45	9.0	---	.08
15	12	10	.32	11	---	.30	9.0	3	.07
16	16	18	.78	11	---	.20	9.0	---	.12
17	19	20	1.0	10	5	.14	9.0	7	.17
18	19	20	1.0	10	---	.12	9.0	---	.14
19	17	15	.69	9.8	---	.10	9.0	5	.12
20	17	18	.83	9.4	3	.08	9.0	---	.07
21	19	24	1.2	9.2	---	.08	9.0	1	.02
22	19	20	1.0	9.0	---	.10	9.0	---	.04
23	17	16	.73	9.0	5	.12	9.0	2	.05
24	18	21	1.0	9.0	---	.12	9.0	---	.05
25	17	23	1.1	9.0	---	.14	9.0	---	.05
26	17	20	.92	9.0	6	.15	9.0	2	.05
27	17	---	1.0	9.0	---	.12	9.0	---	.05
28	16	---	1.0	9.0	---	.10	9.0	---	.07
29	16	31	1.3	9.0	---	.08	9.0	---	.09
30	20	18	.97	9.0	3	.07	9.0	---	.10
31	20	14	.76	---	---	---	9.0	5	.12

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	8.2	4	.09	3.5	5	.05	9.0	9	.22
2	7.2	---	.07	3.5	---	.05	9.0	---	.22
3	6.6	3	.05	3.5	---	.07	9.2	---	.20
4	6.4	---	.04	3.3	11	.10	9.2	---	.20
5	6.0	2	.03	3.2	---	.08	9.4	---	.20
6	5.5	---	.08	3.4	6	.06	9.4	---	.20
7	5.2	9	.13	3.5	---	.06	9.4	---	.20
8	4.9	---	.12	3.5	---	.06	9.4	---	.20
9	4.5	9	.11	3.5	6	.06	9.6	---	.18
10	4.2	---	.13	3.5	---	.06	9.8	---	.18
11	3.9	15	.16	3.5	---	.05	10	---	.16
12	3.6	---	.10	3.5	---	.04	10	6	.16
13	3.5	5	.05	3.5	3	.03	10	---	.21
14	3.5	---	.05	3.5	---	.03	10	10	.27
15	3.5	5	.05	3.7	---	.05	11	---	.24
16	3.5	---	.05	4.1	7	.08	11	7	.21
17	3.5	---	.04	4.5	---	.09	11	---	.21
18	3.5	3	.03	5.0	---	.10	12	---	.19
19	3.5	---	.03	5.6	7	.11	12	---	.19
20	3.5	---	.04	6.4	---	.09	12	6	.19
21	3.5	4	.04	7.0	---	.08	12	---	.19
22	3.5	---	.04	7.4	3	.06	12	---	.16
23	3.5	---	.03	7.4	---	.09	12	4	.13
24	3.5	2	.02	7.8	---	.12	13	12	.42
25	3.5	---	.02	8.0	7	.15	13	11	.39
26	3.5	---	.03	8.4	---	.13	13	11	.39
27	3.5	3	.03	8.8	---	.11	13	18	.63
28	3.5	---	.03	9.0	4	.10	13	19	.67
29	3.5	3	.03	---	---	---	13	21	.74
30	3.5	---	.03	---	---	---	14	20	.75
31	3.5	---	.04	---	---	---	15	17	.69

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	15	25	1.0	3.8	8	.08	77	39	8.1
2	16	31	1.3	2.8	7	.05	76	39	8.0
3	17	27	1.2	2.8	7	.05	76	49	10
4	18	43	2.1	4.4	8	.10	95	65	17
5	19	66	3.4	3.1	9	.08	107	---	20
6	22	26	1.5	2.8	5	.02	98	---	24
7	23	26	1.6	3.5	2	.02	95	---	24
8	20	26	1.4	3.8	---	.03	108	102	30
9	24	31	2.0	3.3	3	.03	120	---	28
10	27	43	3.1	3.5	3	.03	132	---	25
11	41	90	10	4.0	3	.04	123	68	23
12	52	133	19	4.4	---	.04	99	56	15
13	51	111	15	4.2	---	.04	72	42	8.2
14	34	60	5.5	8.8	12	.29	57	36	5.5
15	32	53	4.6	9.4	---	.35	58	15	2.3
16	20	31	1.7	16	---	.70	52	14	2.0
17	12	24	.78	36	---	2.2	80	14	3.0
18	14	34	1.3	40	---	2.8	31	14	1.2
19	12	27	.87	38	19	1.9	25	11	.74
20	19	32	1.6	32	10	.86	23	12	.75
21	25	46	3.1	36	7	.68	19	10	.51
22	19	29	1.5	41	19	2.1	16	9	.39
23	18	22	1.1	48	34	4.4	12	10	.32
24	14	22	.83	54	31	4.5	11	10	.30
25	11	20	.59	55	32	4.8	11	7	.21
26	11	20	.59	46	20	2.5	8.8	7	.17
27	12	14	.45	40	20	2.2	8.8	12	.29
28	12	10	.32	50	20	2.7	15	11	.45
29	3.8	8	.08	67	51	9.2	16	11	.48
30	2.8	6	.05	64	39	6.7	17	13	.60
31	---	---	---	78	71	15	---	---	---

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	13	10	.35	12	10	.32	11	9	.27
2	12	8	.26	13	11	.39	11	8	.24
3	20	---	2.4	12	---	.32	17	10	.46
4	35	---	3.8	11	---	.30	15	11	.45
5	35	---	3.8	8.8	---	.28	15	10	.41
6	24	---	2.3	8.0	11	.24	17	11	.50
7	17	14	.64	7.6	6	.12	15	10	.41
8	13	11	.39	7.6	2	.04	15	10	.41
9	10	7	.19	8.0	8	.17	16	6	.26
10	11	11	.33	11	12	.36	20	8	.43
11	11	6	.18	12	12	.39	24	21	1.4
12	12	12	.39	15	16	.65	24	29	1.9
13	25	---	1.8	17	20	.92	20	24	1.3
14	53	---	7.7	17	19	.87	17	18	.83
15	51	48	6.6	16	22	.95	16	10	.43
16	37	30	3.0	16	20	.86	15	8	.32
17	30	26	2.1	16	12	.52	14	6	.23
18	31	19	1.6	14	16	.60	14	5	.19
19	30	12	.97	10	6	.16	13	5	.18
20	25	11	.74	8.4	14	.32	12	5	.16
21	17	5	.23	8.0	12	.26	12	2	.06
22	14	5	.19	8.4	7	.16	12	2	.06
23	16	9	.39	8.0	8	.17	12	3	.10
24	12	---	.30	8.4	8	.18	12	3	.10
25	13	---	.30	11	8	.24	12	8	.26
26	17	---	.80	12	14	.45	13	9	.32
27	22	22	1.3	12	---	.40	13	8	.28
28	23	19	1.2	11	---	.35	11	4	.12
29	20	18	.97	11	---	.32	11	6	.18
30	16	14	.60	12	10	.32	11	5	.15
31	14	13	.49	11	11	.33	---	---	---
TOTAL	679	---	46.31	353.2	---	11.96	440	---	12.41
YEAR	6290.8		528.40						

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO

LOCATION.--Lat 40°56'10", long 106°20'21", in SW¼SE¼ sec.11, T.11 N., R.80 W., Jackson County, Hydrologic Unit 10180001, on right bank 350 ft (110 m) downstream from bridge on State Highway 125, 0.8 mi (1.3 km) upstream from Camp Creek, 4.2 mi (6.8 km) northwest of Northgate, and 4.4 mi (7.1 km) south of Colorado-Wyoming State line.

DRAINAGE AREA.--1,431 mi² (3,706 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to November 1904 (published as "near Pinknampton"), May 1915 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1916-21, 1929(M), 1930-32. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7,810.39 ft (2,380.607 m) National Geodetic Vertical Datum of 1929. See WSP 1730 for history of changes prior to Apr. 8, 1918. Apr. 8, 1918, to Aug. 21, 1961, water-stage recorder, at site 0.8 mi (1.3 km) downstream at datum 3.36 ft (1.024 m) lower.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of about 130,000 acres (526 km²) of hay meadows above station. Transbasin diversions above station to Cache la Poudre River basin (see elsewhere in this report).

AVERAGE DISCHARGE.--66 years, 428 ft³/s (12.12 m³/s), 310,100 acre-ft/yr (382 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,720 ft³/s (190 m³/s) June 11, 1923, gage height, 6.24 ft (1.902 m), site and datum then in use; maximum gage height recorded, 9.65 ft (2.941 m) Apr. 25, 1980, (ice jam); minimum daily discharge, 19 ft³/s (0.54 m³/s) July 17-19, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,280 ft³/s (36.2 m³/s) June 11, gage height, 4.18 ft (1.274 m); minimum daily, 39 ft³/s (1.10 m³/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	113	82	78	50	122	154	50	535	297	181	91
2	80	113	83	77	47	120	155	48	505	312	192	88
3	78	114	83	73	45	119	156	52	485	477	188	92
4	80	115	84	70	43	118	155	123	529	573	140	100
5	76	117	86	68	41	114	149	137	605	547	113	102
6	72	120	87	66	41	112	157	112	616	433	100	116
7	69	123	86	63	42	110	166	101	700	351	93	156
8	69	124	85	61	42	109	157	100	1080	295	88	120
9	69	122	84	60	43	107	136	103	1200	251	89	108
10	69	120	83	58	40	105	138	99	1210	246	103	103
11	69	116	83	56	39	108	179	91	1260	234	115	130
12	68	108	83	54	40	109	222	91	1100	218	136	171
13	65	101	84	53	41	111	223	93	796	334	175	146
14	72	96	85	52	43	114	202	82	621	329	187	122
15	87	91	87	52	45	118	165	79	554	289	176	113
16	107	86	87	52	48	119	160	88	476	253	161	113
17	124	79	88	52	51	121	131	131	379	226	148	106
18	137	72	90	52	55	125	116	227	294	284	141	98
19	145	73	92	53	58	129	108	278	249	290	123	88
20	148	75	94	53	63	131	113	221	223	246	108	83
21	148	76	95	53	70	135	116	192	191	205	97	78
22	145	77	96	53	77	140	111	202	180	177	92	73
23	132	78	96	54	86	145	100	337	166	160	89	71
24	120	79	95	54	100	150	93	338	175	166	86	72
25	110	79	95	54	110	153	80	358	181	163	84	67
26	106	80	93	54	120	154	70	339	166	181	93	68
27	105	80	90	55	127	153	64	336	164	215	102	68
28	109	81	86	55	125	153	59	400	251	237	98	68
29	111	81	84	55	---	152	50	560	420	231	98	64
30	112	82	83	55	---	152	50	620	382	205	96	61
31	112	---	81	53	---	153	---	569	---	193	95	---
TOTAL	3079	2871	2710	1798	1732	3961	3935	6557	15693	8618	3787	2936
MEAN	99.3	95.7	87.4	58.0	61.9	128	131	212	523	278	122	97.9
MAX	148	124	96	78	127	154	223	620	1260	573	192	171
MIN	65	72	81	52	39	105	50	48	164	160	84	61
AC-FT	6110	5690	5380	3570	3440	7860	7810	13010	31130	17090	7510	5820

CAL YR 1980 TOTAL 188608 MEAN 515 MAX 4400 MIN 48 AC-FT 374100
WTR YR 1981 TOTAL 57677 MEAN 158 MAX 1260 MIN 39 AC-FT 114400

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)
OCT 22...	1000	145	345	303	8.0	4.0	10.2	39	130
NOV 18...	1100	--	380	367	7.9	.0	9.8	K10	150
DEC 15...	1530	--	270	299	7.7	.5	11.0	5	120
JAN 13...	1030	--	275	325	7.5	.0	12.8	1	130
FEB 27...	1520	--	290	270	7.4	.5	11.7	K2	110
MAR 10...	1100	--	145	283	8.1	.0	12.0	2	100
APR 21...	1020	118	350	315	8.0	7.5	9.3	K1	130
MAY 20...	1500	216	457	461	8.2	13.0	10.2	39	180
JUN 09...	1720	1210	235	237	7.6	17.5	8.5	160	110
JUL 13...	1430	407	449	409	7.9	20.5	6.1	K560	170
AUG 17...	1610	148	305	278	8.4	21.0	9.2	96	120
SEP 14...	1540	122	340	298	8.4	16.0	9.1	40	120

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE FET-FLD (MG/L AS HCO3)	CAR-BONATE FET-FLD (MG/L AS CO3)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
OCT 22...	32	11	14	.5	2.4	140	0	120	34
NOV 18...	43	10	17	.6	3.0	170	0	140	36
DEC 15...	32	9.4	15	.6	1.2	130	6	120	28
JAN 13...	34	11	18	.7	1.7	160	0	130	36
FEB 27...	28	9.4	14	.6	1.8	130	0	110	30
MAR 10...	24	10	15	.6	1.8	130	0	110	18
APR 21...	34	11	16	.6	3.0	140	0	120	33
MAY 20...	45	15	36	1.2	2.5	180	0	150	84
JUN 09...	29	9.0	11	.5	2.0	120	0	98	25
JUL 13...	45	14	22	.7	1.8	210	0	170	35
AUG 17...	34	9.4	14	.5	1.6	130	0	110	44
SEP 14...	34	9.3	13	.5	2.0	140	0	120	30

K BASED ON NON-IDEAL COLONY COUNT.

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT								
22...	3.5	.5	10	176	.24	68.9	.08	.000
NOV								
18...	2.6	.7	13	210	.29	40.8	.15	.010
DEC								
15...	.5	.6	10	169	.23	39.7	.33	.060
JAN								
13...	2.3	.7	13	198	.27	28.3	.01	.000
FEB								
27...	3.2	.7	10	163	.22	55.9	.00	.020
MAR								
10...	3.0	.6	8.0	150	.20	42.5	.00	.010
APR								
21...	8.0	.7	7.2	183	.25	58.3	.36	.020
MAY								
20...	18	.7	5.7	297	.40	173	.04	.150
JUN								
09...	9.3	.6	11	155	.21	506	.09	.050
JUL								
13...	3.6	.7	10	230	.31	253	.21	.060
AUG								
17...	2.6	.4	7.3	180	.24	71.9	.62	.100
SEP								
14...	3.0	.5	6.9	170	.23	56.0	.34	.070

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PCH, TOTAL (UG/L)	PCH, TOTAL IN BOTTOM MATERIAL (UG/KG)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 22...	.00	0	.00	.00	.0	.00	.0	.00	.0	.00	.0
JUN 09...	--	--	--	--	--	--	--	--	--	--	--
JUL 13...	--	--	--	--	--	--	--	--	--	--	--
SEP 14...	--	--	--	--	--	--	--	--	--	--	--

DATE	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 22...	.00	.0	.00	.00	.0	.00	.00	.0	.00	.00	.0
JUN 09...	--	--	--	--	--	--	--	--	--	--	--
JUL 13...	--	--	--	--	--	--	--	--	--	--	--
SEP 14...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)
OCT 22...	.00	.0	.00	.0	.00	.00	.0	.00	.00	.00	.00
JUN 09...	--	--	--	--	--	--	--	--	--	--	--
JUL 13...	--	--	--	--	--	--	--	--	--	--	--
SEP 14...	--	--	--	--	--	--	--	--	--	--	--

DATE	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4-D, TOTAL IN BOTTOM MATERIAL (UG/KG)	2,4,5-T TOTAL (UG/L)	2,4,5-T TOTAL IN BOTTOM MATERIAL (UG/KG)	SILVEX, TOTAL (UG/L)	SILVEX, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 22...	.00	0	.0	.00	.00	0	.00	0	.00	0
JUN 09...	--	--	--	--	.00	0	.00	0	.00	0
JUL 13...	--	--	--	--	<.01	0	.00	0	.00	0
SEP 14...	--	--	--	--	.00	0	.00	0	.00	0

06657500 LARAMIE RIVER NEAR GLENDEVEY, CO

LOCATION.--Lat 40°48'02", long 105°52'40", in NW¼NW¼ sec.36, T.10 N., R.76 W., Larimer County, Hydrologic Unit 10180010, on left bank 200 ft (61 m) downstream from bridge on county road, 350 ft (110 m) downstream from Nunn Creek, 1,300 ft (400 m) upstream from Stub Creek, and 3.0 mi (4.8 km) east of Glendevey.

DRAINAGE AREA.--101 mi² (262 km²).

PERIOD OF RECORD.--June 1904 to October 1905, August 1910 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "at Glendevey" 1905, 1910-18.

REVISED RECORDS.--WSP 469: 1911-12. WSP 506: Drainage area. WSP 1310: 1905, 1914. WSP 1918: 1918 (monthly runoff).

GAGE.--Water-stage recorder. Altitude of gage is 8,230 ft (2,509 m), from topographic map. See WSP 1730 for history of changes prior to Sept. 20, 1935.

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation of about 700 acres (2.83 km²) of hay meadows above station. Transbasin diversions above station to Cache la Poudre River and tributaries (see elsewhere in this report). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--72 years, 72.8 ft³/s (2.062 m³/s), 52,740 acre-ft/yr (65.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,240 ft³/s (63.4 m³/s) June 9, 1923, gage height, 4.55 ft (1.387 m), from floodmarks, site and datum then in use, from rating curve extended above 1,400 ft³/s (40 m³/s); minimum daily recorded, 5.0 ft³/s (0.14 m³/s) Feb. 14, 15, 1911, but may have been less during winter periods of no gage-height record.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 672 ft³/s (19.0 m³/s) at 0400 June 9, gage height, 2.85 ft (0.869 m); minimum daily, 10 ft³/s (0.28 m³/s) Jan. 20, 21, Feb. 7, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	23	19	17	11	13	16	65	175	46	21	21
2	13	23	19	16	11	13	19	70	170	70	21	16
3	13	22	19	17	11	13	19	86	180	130	20	19
4	13	23	19	15	11	13	17	72	245	114	19	16
5	13	23	19	15	11	14	18	55	348	80	18	15
6	12	24	18	15	11	14	18	60	376	44	18	16
7	12	24	17	14	10	14	18	56	544	36	18	16
8	12	25	17	14	11	14	16	43	574	46	18	16
9	12	23	16	14	11	14	21	39	577	37	20	20
10	12	23	15	13	10	14	38	43	520	46	22	25
11	12	23	15	13	11	14	39	46	439	32	19	25
12	12	23	15	12	12	15	36	41	316	42	21	18
13	12	23	15	11	12	17	33	43	145	67	23	16
14	13	23	16	12	12	17	32	48	111	62	19	16
15	18	20	16	12	12	16	34	53	87	37	22	15
16	17	19	17	12	12	15	36	54	70	30	29	15
17	16	18	17	12	12	14	39	60	53	39	21	14
18	16	18	17	12	13	14	44	55	50	38	19	13
19	16	19	17	11	12	15	54	61	46	35	17	13
20	16	19	16	10	13	14	66	86	40	29	16	13
21	16	19	16	10	13	15	54	86	35	26	16	14
22	16	19	16	11	13	16	45	66	38	34	16	14
23	18	19	16	11	13	14	36	76	41	38	15	13
24	18	19	16	11	14	15	36	91	33	36	16	17
25	18	19	16	11	14	16	54	114	33	34	19	18
26	18	19	16	11	14	16	74	138	37	37	17	18
27	18	19	17	11	13	16	73	156	38	38	16	17
28	19	19	17	11	13	16	65	176	49	29	15	17
29	25	19	17	11	---	15	69	173	55	25	15	19
30	24	19	16	11	---	15	69	172	33	22	15	18
31	23	---	16	11	---	16	---	176	---	23	15	---
TOTAL	486	628	518	387	336	457	1188	2560	5458	1402	576	503
MEAN	15.7	20.9	16.7	12.5	12.0	14.7	39.6	82.6	182	45.2	18.6	16.8
MAX	25	25	19	17	14	17	74	176	577	130	29	25
MIN	12	18	15	10	10	13	16	39	33	22	15	13
AC-FT	964	1250	1030	768	666	906	2360	5080	10830	2780	1140	998

CAL YR 1980 TOTAL 26886 MEAN 73.5 MAX 745 MIN 12 AC-FT 53330
WTR YR 1981 TOTAL 14499 MEAN 39.7 MAX 577 MIN 10 AC-FT 28760

06695000 SOUTH PLATTE RIVER ABOVE ELEVENMILE CANYON RESERVOIR, NEAR HARTSEL, CO

LOCATION.--Lat 38°58'03", long 105°34'51", in NE¼ sec.32, T.12 S., R.73 W., Park County, Hydrologic Unit 10190001, on left bank 200 ft (60 m) downstream from highway bridge, 2.5 mi (4.0 km) upstream from water line of Elevenmile Canyon Reservoir at elevation 8,561 ft (2,609 m), and 13 mi (21 km) southeast of Hartsel.

DRAINAGE AREA.--880 mi^2 (2,279 km^2).

PERIOD OF RECORD.--June 1933 to current year (no winter records prior to 1940). Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1630: 1958. WSP 1730: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 8,612.83 ft (2,625.191 m) Denver Board of Water Commissioners Datum. Prior to May 27, 1939, water-stage recorder near present site at different datum. May 27, 1939, to Nov. 4, 1961, at datum 0.46 ft (0.140 m) lower.

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by Antero Reservoir, capacity, 22,300 acre-ft (27.5 hm^3). Many small diversions above station for irrigation of about 24,000 acres (97.1 km^2). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--42 years (water years 1940-81), 77.3 ft^3/s (2.189 m^3/s), 56,000 acre-ft/yr (69.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, occurred Apr. 28, 1970, gage height, 7.60 ft (2.316 m), from floodmarks; maximum daily, 3,970 ft^3/s (112 m^3/s) Apr. 27, 1970; minimum daily, 0.55 ft^3/s (0.016 m^3/s) Oct. 2-5, 9, 10, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 347 ft^3/s (9.83 m^3/s) at 0400 July 3, gage height, 2.25 ft (0.686 m); minimum daily, 6.0 ft^3/s (0.17 m^3/s) Feb. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	52	30	21	13	17	32	18	29	72	45	43
2	15	50	32	21	12	18	35	27	41	100	46	40
3	15	49	36	21	12	21	35	34	56	236	50	43
4	16	43	42	20	10	31	33	49	60	97	47	63
5	15	42	40	18	9.0	37	32	36	48	71	34	54
6	17	42	35	18	10	41	35	24	117	57	33	50
7	20	41	30	19	10	42	36	24	142	49	32	71
8	23	40	25	21	10	45	37	18	120	43	32	99
9	24	38	22	22	8.0	45	37	15	115	49	31	95
10	23	34	23	20	7.0	44	38	11	107	78	33	106
11	24	31	24	19	6.5	46	38	7.4	100	61	51	133
12	24	34	23	19	6.0	48	40	6.1	87	108	57	170
13	24	33	22	19	7.0	50	41	6.1	71	81	58	189
14	25	22	23	19	9.0	50	41	6.1	58	74	54	169
15	34	22	23	19	11	50	32	7.8	42	74	59	141
16	43	18	23	18	11	45	30	11	39	88	76	118
17	38	24	22	19	10	47	27	14	54	128	69	110
18	35	28	22	19	10	45	31	12	50	115	57	79
19	33	30	21	19	10	46	29	11	54	103	50	64
20	33	29	22	19	9.0	48	26	11	50	85	43	59
21	33	30	23	20	10	46	24	18	48	76	42	59
22	42	31	23	21	9.0	43	19	14	43	67	41	62
23	42	29	20	21	9.0	33	16	14	45	65	40	59
24	39	23	20	20	10	28	14	16	41	59	36	59
25	38	14	22	17	14	23	13	18	42	61	38	59
26	38	14	22	15	16	22	14	5.0	44	72	41	54
27	40	16	22	16	15	24	12	.56	45	87	50	51
28	44	21	21	15	17	28	9.0	.55	51	74	58	50
29	37	24	21	14	---	31	9.0	1.7	65	54	50	48
30	36	27	21	14	---	34	11	26	92	46	44	46
31	50	---	21	13	---	32	---	26	---	43	41	---
TOTAL	935	931	776	576	290.5	1160	826.0	488.31	1956	2473	1438	2443
MEAN	30.2	31.0	25.0	18.6	10.4	37.4	27.5	15.8	65.2	79.8	46.4	81.4
MAX	50	52	42	22	17	50	41	49	142	236	76	189
MIN	15	14	20	13	6.0	17	9.0	.55	29	43	31	40
AC-FT	1850	1850	1540	1140	576	2300	1640	969	3880	4910	2850	4850

CAL YR 1980 TOTAL 45771.00 MEAN 125 MAX 700 MIN 13 AC-FT 90790
WTR YR 1981 TOTAL 14292.81 MEAN 39.2 MAX 236 MIN .55 AC-FT 28350

NOTE.--NO GAGE-HEIGHT RECORD DEC. 9 TO APR. 13.

06696000 SOUTH PLATTE RIVER NEAR LAKE GEORGE, CO

LOCATION.--Lat 38°54'19", long 105°28'22", in SW¼ sec.20, T.13 S., R.72 W., Park County, Hydrologic Unit 10190001, on left bank 700 ft (210 m) downstream from Elevenmile Canyon Reservoir and 8.2 mi (13.2 km) southwest of town of Lake George.

DRAINAGE AREA.--963 mi² (2,494 km²).

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 8,450 ft (2,576.0 m), from topographic map. Prior to Oct. 26, 1940, at site 1 mi (1.6 km) downstream at datum 8,423.95 ft (2,567.620 m) National Geodetic Vertical Datum, adjustment of 1912.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions through East and West Hoosier ditches at Hoosier Pass prior to 1961, storage in Elevenmile Canyon Reservoir (see elsewhere in this report) and Antero Reservoir, capacity, 22,300 acre-ft (27.5 hm³), diversions for irrigation, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--52 years, 72.9 ft³/s (2.064 m³/s), 52,820 acre-ft/yr (65.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 3,000 ft³/s (85 m³/s) Apr. 28, 1970, gage height, 8.34 ft (2.542 m), from floodmarks, by computation of outflow from Elevenmile Canyon Reservoir; no flow at times in January 1930, February 1931, and November 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 232 ft³/s (6.57 m³/s) at 2400 Sept. 15, gage height, 2.33 ft (0.710 m); minimum daily, 7.7 ft³/s (0.22 m³/s) Apr. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	67	78	62	18	14	19	17	16	79	66	63
2	41	59	72	62	18	15	12	19	16	31	58	62
3	41	76	61	62	19	26	12	20	16	20	58	62
4	41	99	55	62	19	88	13	19	16	68	58	63
5	41	99	54	62	19	128	13	19	16	100	58	63
6	41	69	54	62	19	98	19	39	17	100	61	63
7	40	74	54	62	19	80	26	51	17	100	63	63
8	39	68	84	53	18	80	40	50	17	100	63	63
9	39	68	108	49	16	80	43	50	16	107	36	80
10	39	63	112	49	13	73	43	40	67	126	22	128
11	39	61	112	49	10	52	43	26	103	161	23	149
12	39	61	100	46	8.9	21	43	19	81	161	23	167
13	39	35	93	39	8.9	22	51	19	63	161	25	192
14	39	28	75	36	8.9	25	54	19	60	161	27	218
15	39	41	66	36	8.9	27	54	19	40	161	28	228
16	39	41	66	36	8.9	72	53	19	29	169	27	196
17	39	27	66	36	8.9	101	52	19	28	189	27	158
18	39	18	66	36	8.9	100	51	16	25	199	27	99
19	39	18	66	36	8.9	99	42	16	33	199	27	73
20	40	18	66	25	8.9	97	28	17	45	198	37	73
21	40	18	66	18	9.3	97	25	17	45	127	45	88
22	50	18	58	18	9.3	97	17	15	33	82	45	96
23	60	18	54	18	9.3	79	12	14	25	93	45	96
24	60	43	54	18	9.3	68	12	15	25	100	57	96
25	60	73	54	18	13	69	12	15	32	100	72	96
26	61	78	54	18	14	69	12	14	46	100	73	96
27	74	78	46	18	14	70	11	14	62	136	71	96
28	82	77	41	18	14	69	7.7	14	75	166	71	70
29	82	77	41	18	---	70	8.0	14	96	154	72	56
30	82	77	41	18	---	57	10	15	115	131	72	56
31	82	---	55	18	---	36	---	16	---	97	66	---
TOTAL	1527	1667	2072	1158	360.3	2079	833.7	674	1273	3876	1503	3109
MEAN	49.3	55.6	66.8	37.4	12.9	67.1	27.8	21.7	42.4	125	48.5	104
MAX	82	99	112	62	19	128	54	51	115	199	73	228
MIN	39*	18	41	18	8.9	14	7.7	14	16	20	22	56
AC-FT	3030	3310	4110	2300	715	4120	1650	1340	2520	7690	2980	6170

CAL YR 1980 TOTAL 52107.0 MEAN 142 MAX 657 MIN 12 AC-FT 103400
WTR YR 1981 TOTAL 20152.0 MEAN 55.2 MAX 228 MIN 7.7 AC-FT 39970

06696980 TARRYALL CREEK AT UPPER STATION, NEAR COMO, CO

LOCATION.--Lat 39°20'23", long 105°54'42", in NE¼SW¼ sec.20, T.8 S., R.76 W., Park County, Hydrologic Unit 10190001, on left bank 150 ft (46 m) upstream from culvert on county road 1.8 mi (2.9 km) northwest of Como. Prior to July 15, 1980, at site 250 ft (76 m) downstream.

DRAINAGE AREA.--23.7 mi² (61.4 km²).

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 9,935 ft (3,028 m), from topographic map.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, not determined, maximum daily, 170 ft³/s (4.81 m³/s) June 12, 1980; minimum daily, 1.5 ft³/s (0.042 m³/s) Apr. 5, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28 ft³/s (0.79 m³/s) at 1830 July 2, gage height, 1.12 ft (0.341 m) minimum daily, 1.5 ft³/s (0.042 m³/s) Apr. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	7.8	7.8	6.4	5.0	4.0	4.4	11	19	12	8.2	9.6
2	10	7.8	7.8	6.4	4.8	3.5	4.6	12	19	18	8.2	9.2
3	10	7.4	7.8	6.4	4.5	3.0	3.9	15	22	18	8.7	9.2
4	11	7.8	7.8	6.2	4.5	3.0	2.0	13	23	15	7.8	9.6
5	10	8.2	7.8	6.0	4.5	3.0	1.5	14	22	14	6.9	9.6
6	10	8.2	7.4	6.0	4.5	3.0	4.2	16	23	13	7.4	9.2
7	10	7.8	6.6	6.0	4.5	3.0	4.2	15	25	13	6.4	11
8	10	7.8	5.8	6.0	4.5	3.0	5.1	13	24	13	6.0	10
9	9.6	7.4	5.8	6.0	4.5	3.0	6.4	14	24	14	6.9	10
10	9.6	7.4	5.8	6.0	4.5	3.2	7.8	13	23	15	8.2	12
11	9.2	7.8	5.8	6.0	4.5	3.5	8.2	13	22	13	9.2	14
12	9.2	7.8	5.8	6.0	4.5	3.9	7.8	13	20	13	13	13
13	9.2	7.8	5.8	6.0	4.5	3.9	6.9	13	20	14	12	13
14	9.6	7.8	5.8	6.0	4.5	3.1	7.8	12	19	12	12	12
15	11	7.0	5.8	6.0	4.5	3.1	8.7	13	19	13	14	12
16	10	7.0	5.8	6.0	4.5	3.5	9.2	12	18	16	13	12
17	10	7.0	5.8	6.0	4.5	3.1	10	12	16	14	12	12
18	9.6	7.0	5.8	6.0	4.5	3.1	9.6	13	16	13	10	11
19	9.6	7.0	5.8	5.4	4.5	3.1	7.8	13	14	12	9.6	12
20	9.6	7.0	5.8	5.4	4.5	2.8	7.4	13	13	10	10	12
21	10	7.0	5.8	5.4	4.5	3.5	7.8	13	12	10	10	11
22	9.6	7.0	5.8	5.4	4.5	3.5	7.4	12	12	9.6	9.6	9.6
23	9.6	7.0	5.8	5.4	4.5	3.1	7.8	12	12	9.2	10	10
24	8.4	7.0	5.8	5.4	4.8	2.8	9.2	12	12	9.6	10	10
25	8.2	7.6	5.8	5.4	5.0	2.8	10	12	13	9.6	9.2	9.6
26	8.2	7.8	5.8	5.4	5.0	3.1	11	12	12	10	9.6	9.2
27	8.2	7.8	5.8	5.4	5.0	3.1	10	12	12	11	10	9.2
28	8.0	7.8	6.4	5.4	4.5	3.1	9.2	14	12	8.7	9.6	9.2
29	8.0	7.8	6.4	5.4	---	3.4	10	20	13	8.2	9.2	8.7
30	8.2	7.8	6.4	5.4	---	3.8	10	19	13	7.8	9.2	8.7
31	7.8	---	6.4	5.0	---	4.2	---	19	---	8.2	8.7	---
TOTAL	291.4	225.4	194.6	179.2	128.6	101.2	219.9	420	524	376.9	294.6	317.6
MEAN	9.40	7.51	6.28	5.78	4.59	3.26	7.33	13.5	17.5	12.2	9.50	10.6
MAX	11	8.2	7.8	6.4	5.0	4.2	11	20	25	18	14	14
MIN	7.8	7.0	5.8	5.0	4.5	2.8	1.5	11	12	7.8	6.0	8.7
AC-FT	578	447	386	355	255	201	436	833	1040	748	584	630

CAL YR 1980 TOTAL 8080.7 MEAN 22.1 MAX 170 MIN 2.3 AC-FT 16030
WTR YR 1981 TOTAL 3273.4 MEAN 8.97 MAX 25 MIN 1.5 AC-FT 6490

NOTE.--NO GAGE-HEIGHT RECORD NOV. 15 TO MAR. 11.

06697450 MICHIGAN CREEK ABOVE JEFFERSON, CO

LOCATION.--Lat 39°21'32", long 105°50'27", in SW¼NW¼ sec.13, T.8 S., R.76 W., Park County, Hydrologic Unit 10190001, on left bank 1.1 mi (1.8 km) upstream from bridge on U.S. Highway 285 and 2.6 mi (4.2 km) southwest of Jefferson.

DRAINAGE AREA.--23.1 mi² (59.8 km²).

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,521 ft (2,902 m), from topographic map.

REMARKS.--Records poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 121 ft³/s (3.43 m³/s) June 10, 1979, gage height, 2.11 ft (0.643 m); minimum daily, 0.80 ft³/s (0.023 m³/s) Mar. 6-25, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24 ft³/s (0.68 m³/s) at 0430 May 29, gage height, 1.46 ft (0.445 m); minimum daily, 0.80 ft³/s (0.023 m³/s) Mar. 6-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	5.4	3.4	1.4	1.0	1.0	2.0	11	12	4.4	5.9	5.2
2	1.9	5.2	3.4	1.4	1.0	1.0	2.0	13	13	5.0	5.7	5.0
3	1.9	4.6	3.4	1.4	1.0	1.0	2.0	16	17	8.8	5.7	4.6
4	1.7	5.2	3.4	1.4	1.0	1.0	2.2	9.9	17	5.0	6.2	4.2
5	1.7	5.4	3.4	1.4	1.0	1.0	2.4	11	17	4.0	6.2	3.6
6	1.7	5.3	3.4	1.4	1.0	.80	2.5	14	18	4.0	5.7	3.2
7	1.7	5.4	3.4	1.4	1.0	.80	2.7	9.9	18	3.9	5.7	2.8
8	1.7	6.7	3.4	1.4	1.0	.80	2.8	8.5	16	4.0	5.4	2.5
9	1.7	5.7	3.4	1.4	1.0	.80	3.2	7.5	13	3.9	5.2	2.5
10	1.7	5.7	3.4	1.4	1.0	.80	3.5	7.0	16	3.9	5.9	2.9
11	2.6	6.2	3.4	1.4	1.0	.80	3.5	5.7	16	2.9	6.7	3.3
12	3.1	6.7	2.8	1.4	1.0	.80	3.5	5.7	16	2.4	7.5	4.0
13	3.1	6.7	2.3	1.4	1.0	.80	3.5	7.5	12	2.7	8.2	3.5
14	3.1	6.8	2.2	1.4	1.0	.80	3.9	7.0	10	2.9	7.2	3.0
15	5.2	6.8	2.0	1.4	1.0	.80	4.2	8.8	8.8	2.2	7.5	2.7
16	6.7	6.6	2.0	1.4	1.0	.80	4.6	8.8	7.5	2.6	7.5	2.5
17	6.4	5.2	2.0	1.4	1.0	.80	5.0	8.2	5.0	3.1	7.8	2.4
18	6.2	3.5	2.0	1.4	1.0	.80	5.4	7.5	6.7	2.4	7.0	2.3
19	6.2	3.4	2.0	1.4	1.0	.80	6.0	7.0	8.8	2.4	6.4	2.3
20	6.2	3.4	2.0	1.4	1.0	.80	6.6	5.7	8.2	2.6	6.4	2.3
21	6.4	3.4	2.0	1.4	1.0	.80	7.2	5.2	7.5	2.6	6.7	2.3
22	6.4	3.4	2.0	1.4	1.0	.80	7.8	5.2	6.7	2.6	6.7	2.3
23	5.7	3.4	2.0	1.4	1.0	.80	8.6	5.7	6.4	3.1	6.7	2.3
24	4.6	3.4	2.0	1.4	1.0	.80	9.2	5.7	6.2	3.6	6.7	2.3
25	5.7	3.4	2.0	1.4	1.0	.80	4.0	6.2	4.6	3.9	7.0	2.3
26	5.4	3.4	2.0	1.4	1.0	1.2	4.2	6.7	4.0	4.6	6.4	2.2
27	6.2	3.4	2.0	1.2	1.0	1.4	3.4	6.7	4.6	5.0	6.7	2.2
28	5.4	3.4	2.0	1.0	1.0	1.6	2.0	7.5	5.2	5.0	6.2	2.2
29	6.7	3.4	1.8	1.0	---	1.8	4.8	15	4.8	5.0	6.2	2.2
30	6.4	3.4	1.4	1.0	---	2.0	9.2	14	5.0	5.2	5.9	2.2
31	5.9	---	1.4	1.0	---	2.0	---	12	---	5.7	5.4	---
TOTAL	130.7	143.9	77.3	41.6	28.0	31.00	131.9	269.6	311.0	119.4	200.4	87.3
MEAN	4.22	4.80	2.49	1.34	1.00	1.00	4.40	8.70	10.4	3.85	6.46	2.91
MAX	6.7	6.8	3.4	1.4	1.0	2.0	9.2	16	18	8.8	8.2	5.2
MIN	1.4	3.4	1.4	1.0	1.0	.80	2.0	5.2	4.0	2.2	5.2	2.2
AC-FT	259	285	153	83	56	61	262	535	617	237	397	173

CAL YR 1980 TOTAL 4053.60 MEAN 11.1 MAX 78 MIN 1.4 AC-FT 8040
WTR YR 1981 TOTAL 1572.10 MEAN 4.31 MAX 18 MIN .80 AC-FT 3120

NOTE.--NO GAGE-HEIGHT RECORD NOV. 16 TO APR. 24.

06698000 JEFFERSON CREEK NEAR JEFFERSON, CO

LOCATION.--Lat 39°23'34", long 105°48'38", in SE¼SE¼ sec.31, T.7 S., R.75 W., Park County, Hydrologic Unit 10190001, on right bank 1.2 mi (1.9 km) northwest of Jefferson and 1.3 mi (2.1 km) upstream from bridge on U.S. Highway 285.

DRAINAGE AREA.--11.8 mi² (30.6 km²).

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 9,600 ft (2,926 m), from topographic map.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48 ft³/s (1.36 m³/s) June 24, 1978, gage height, 1.38 ft (0.421 m); maximum gage height, 1.48 ft (0.451 m) June 11, 1980; no flow Jan. 28 to Apr. 5, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16 ft³/s (0.45 m³/s) at 1530 Aug. 15, gage height, 0.78 ft (0.238 m); maximum gage height, 0.91 ft (0.277 m) at 1000 Nov. 3 (backwater from ice); minimum daily discharge, 0.40 ft³/s (0.011 m³/s) Mar. 5-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	2.2	2.1	2.2	1.0	.60	2.0	8.1	4.7	7.8	9.8	2.4
2	5.2	2.2	2.2	2.2	.80	.60	2.0	11	6.7	9.2	11	1.7
3	4.0	2.2	2.2	2.2	.80	.60	2.0	12	11	5.9	11	2.6
4	3.8	2.2	2.0	2.2	.80	.60	2.0	8.9	8.9	3.6	10	1.7
5	3.5	2.1	2.0	2.2	.80	.40	2.1	6.4	8.1	4.7	10	1.4
6	3.6	2.2	2.0	2.2	.80	.40	2.2	6.2	8.9	5.2	9.5	1.3
7	3.5	2.1	2.0	2.2	.80	.40	2.4	2.4	10	4.7	8.6	1.3
8	3.3	2.3	2.0	2.2	.80	.50	2.6	2.9	8.9	3.6	8.6	1.2
9	3.1	2.4	2.0	2.2	.80	.60	2.8	4.2	7.5	3.3	9.5	1.4
10	2.9	2.4	2.0	2.2	.80	.60	3.0	3.8	6.7	4.7	11	2.4
11	2.9	2.4	2.0	2.2	.80	.60	3.0	4.0	6.2	3.3	10	3.3
12	2.9	2.4	2.0	2.2	.60	.60	3.0	3.8	7.5	3.6	14	2.0
13	2.9	2.1	2.0	2.2	.60	.60	3.0	3.5	6.7	4.5	12	1.4
14	2.7	1.9	2.0	2.2	.60	.60	3.0	4.2	5.7	7.0	9.5	.70
15	2.7	1.7	2.0	2.2	.60	.60	3.2	8.4	6.2	8.1	11	.70
16	2.7	1.7	2.0	2.2	.60	1.0	3.5	5.2	8.6	10	9.2	.60
17	2.7	1.8	2.0	2.2	.60	1.0	3.5	5.9	6.4	9.8	8.9	.70
18	2.5	1.8	2.2	2.1	.60	1.0	3.5	5.9	7.0	9.2	7.2	.70
19	2.5	1.9	2.2	2.0	.60	1.4	3.7	7.5	12	8.4	6.7	.70
20	2.5	2.0	2.2	1.5	.60	1.6	3.9	7.8	12	7.2	5.9	.70
21	2.4	2.0	2.2	1.5	.60	1.6	4.0	7.5	13	8.6	6.4	.80
22	2.3	2.0	2.2	1.5	.60	1.6	4.0	5.4	11	13	5.7	.80
23	2.2	2.0	2.2	1.5	.60	1.6	4.5	3.8	12	12	5.4	.80
24	2.3	2.0	2.2	1.5	.60	1.6	5.0	3.5	13	8.9	5.0	.80
25	2.5	2.0	2.2	1.5	.60	1.6	5.7	3.6	13	7.5	4.7	.90
26	2.5	2.0	2.2	1.5	.60	1.6	6.7	3.8	13	6.4	4.5	.80
27	2.2	2.0	2.2	1.5	.60	1.8	6.2	4.0	14	6.4	5.0	.70
28	2.2	2.0	2.2	1.5	.60	2.0	5.0	7.2	13	4.5	3.6	.70
29	2.2	2.0	2.2	1.5	---	2.0	7.2	11	10	3.6	3.3	.80
30	2.2	2.0	2.2	1.5	---	2.0	8.4	3.3	8.1	3.3	2.6	.70
31	2.2	---	2.2	1.5	---	2.0	---	3.1	---	5.7	2.7	---
TOTAL	91.8	62.0	65.3	59.5	19.20	33.70	113.1	178.3	279.8	203.7	242.3	36.70
MEAN	2.96	2.07	2.11	1.92	.69	1.09	3.77	5.75	9.33	6.57	7.82	1.22
MAX	6.7	2.4	2.2	2.2	1.0	2.0	8.4	12	14	13	14	3.3
MIN	2.2	1.7	2.0	1.5	.60	.40	2.0	2.4	4.7	3.3	2.6	.60
AC-FT	182	123	130	118	38	67	224	354	555	404	481	73

CAL YR 1980 TOTAL 3348.50 MEAN 9.15 MAX 40 MIN 1.7 AC-FT 6640
WTR YR 1981 TOTAL 1385.40 MEAN 3.80 MAX 14 MIN .40 AC-FT 2750

NOTE.--NO GAGE-HEIGHT RECORD NOV. 17 TO APR. 24.

06698500 TARRYALL CREEK NEAR JEFFERSON, CO

LOCATION.--Lat 39°17'42" long 105°43'05", in NE¼SE¼ sec.1, T.9 S., R.75 W., Park County, Hydrologic Unit 10190001, on left bank 0.6 mi (1.0 km) downstream from Michigan Creek and 7.2 mi (11.6 km) southeast of Jefferson.

DRAINAGE AREA.--183 mi² (474 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1910 to June 1911 (discharge measurements and gage heights only, published in WSP 456), July 1912 to October 1917 (monthly discharge only, published in WSP 1310), July 1977 to September 1981 (discontinued).

REVISED RECORDS.--WDR-CO-80-1: 1979.

GAGE.--Water-stage recorder. Altitude of gage is 9,050 ft (2,758 m), from topographic map. October 1910 to June 1911, nonrecording gage 1.0 mi (2.6 km) downstream from present site at different datum. April 1916 to October 1917, nonrecording gage 60 ft (18 m) upstream from previous site at same datum.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of a few acres of hay meadows above gage.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--9 years (1913-17, 1978-81) 42.3 ft³/s (1.198 m³/s), 30,650 acre-ft/yr (37.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.-- Maximum discharge, 1,320 ft³/s (37.4 m³/s) July 9, 1917, gage height, 4.1 ft (1.2 m), site and datum then in use; maximum gage height, 6.70 ft (2.04 m) June 7, 1979, backwater from debris; present site and datum; minimum daily discharge, 0.50 ft³/s (0.014 m³/s) Jan. 2, Feb. 11 to Mar. 7, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 59 ft³/s (1.67 m³/s) Aug. 3, gage height, 1.82 ft (0.555 m); minimum daily, 1.5 ft³/s (0.042 m³/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	12	6.5	5.5	2.0	8.0	11	12	8.8	9.9	8.5	9.4
2	11	11	6.0	5.5	2.0	9.0	13	15	6.8	11	11	8.4
3	9.4	11	6.5	5.5	2.0	10	15	22	14	15	21	8.8
4	8.0	12	6.5	5.5	2.5	9.0	14	18	20	10	14	11
5	7.5	11	6.0	5.5	2.5	8.0	14	7.7	14	7.1	12	9.7
6	7.2	11	6.0	5.0	2.5	9.0	17	6.9	12	6.4	10	8.5
7	7.0	11	6.0	4.5	2.5	10	20	6.7	12	6.5	9.3	11
8	7.1	10	5.5	4.5	3.0	10	22	3.4	10	6.2	9.1	12
9	6.7	8.8	5.5	5.0	3.0	9.0	22	2.8	7.9	4.9	11	13
10	6.7	8.8	5.5	4.5	2.0	9.0	26	3.0	6.6	5.7	15	16
11	6.2	9.6	6.5	4.0	1.5	9.0	32	3.1	6.0	7.3	18	19
12	6.0	10	6.5	3.5	2.5	9.0	32	3.0	4.5	6.7	24	18
13	5.9	10	6.0	3.5	2.5	9.0	24	3.0	3.4	7.1	33	13
14	5.6	8.0	6.0	3.5	3.0	9.0	23	2.9	2.6	7.9	19	8.2
15	8.5	7.0	7.0	4.0	4.0	9.0	14	3.3	2.3	7.4	19	5.3
16	11	6.0	8.0	4.0	4.0	10	11	5.0	2.9	12	28	4.8
17	11	5.5	8.0	3.0	4.5	11	11	4.6	4.1	14	23	3.9
18	8.8	5.0	8.0	3.5	5.0	9.0	11	4.6	3.8	12	18	3.4
19	8.7	5.5	7.0	3.5	5.0	10	10	4.8	7.7	8.8	15	3.2
20	10	5.5	6.5	3.5	6.0	11	10	6.4	8.6	5.1	13	3.2
21	11	5.5	6.5	3.0	6.0	10	8.3	6.7	9.8	4.9	15	3.2
22	9.7	6.0	7.0	3.5	5.0	9.0	7.2	6.3	12	7.6	15	3.1
23	7.8	6.0	7.0	4.0	6.0	9.5	6.4	5.4	11	9.7	14	3.0
24	6.4	6.0	6.5	4.0	7.0	10	5.7	4.8	12	8.7	13	3.0
25	6.2	5.0	6.5	3.5	7.0	9.0	6.9	4.6	10	6.7	14	2.9
26	7.9	5.0	7.0	2.5	7.0	11	7.8	4.8	8.6	8.0	14	2.2
27	8.8	5.5	7.0	3.0	7.0	12	7.2	3.7	13	11	15	1.6
28	8.5	6.5	7.0	3.5	7.0	11	6.5	3.4	10	11	15	1.5
29	7.6	7.0	6.0	3.5	---	10	5.6	25	11	7.4	12	1.6
30	11	6.5	5.5	3.0	---	11	9.4	23	9.3	5.8	11	1.8
31	11	---	6.0	2.5	---	11	---	12	---	5.1	8.6	---
TOTAL	261.2	237.7	201.5	123.0	114.0	300.5	423.0	237.9	264.7	256.9	477.5	213.7
MEAN	8.43	7.92	6.50	3.97	4.07	9.69	14.1	7.67	8.82	8.29	15.4	7.12
MAX	13	12	8.0	5.5	7.0	12	32	25	20	15	33	19
MIN	5.6	5.0	5.5	2.5	1.5	8.0	5.6	2.8	2.3	4.9	8.5	1.5
AC-FT	518	471	400	244	226	596	839	472	525	510	947	424

CAL YR 1980 TOTAL 16313.9 MEAN 44.6 MAX 313 MIN 4.5 AC-FT 32360
WTR YR 1981 TOTAL 3111.6 MEAN 8.52 MAX 33 MIN 1.5 AC-FT 6170

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1977 to September 1981 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)
OCT										
15...	1105	5.0	140	185	7.7	8.0	.75	9.8	15	K7
NOV										
06...	1130	5.0	140	--	7.8	5.0	--	9.7	11	K7
DEC										
02...	1110	11	160	215	7.7	3.0	--	9.8	15	K10
JAN										
13...	1145	2.0	160	227	7.4	1.0	1.1	9.6	--	--
FEB										
25...	1300	1.1	200	287	7.7	1.0	--	10.1	13	K16
MAR										
25...	1030	1.5	260	292	7.6	.0	--	10.2	15	K24
APR										
24...	1100	10	160	222	7.6	13.0	--	10.3	33	31
MAY										
21...	1200	<10	180	194	7.6	5.0	--	11.0	12	25
JUN										
10...	1200	9.3	260	312	7.7	15.0	--	11.0	28	27
JUL										
07...	0845	2.0	143	186	7.3	18.0	--	10.2	49	K17
28...	1300	5.0	165	193	7.8	23.0	--	9.8	19	K2
AUG										
12...	1115	12	140	154	7.7	14.0	5.2	10.2	26	K4
SEP										
03...	1245	10	163	203	7.8	14.0	--	9.8	42	22

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT										
15...	K7	85	25	5.4	5.3	.3	1.1	83	15	.8
NOV										
06...	K10	94	29	5.2	5.8	.3	1.3	87	23	3.6
DEC										
02...	K11	94	28	5.8	6.2	.3	1.7	85	24	3.1
JAN										
13...	--	96	29	5.7	5.8	.3	1.3	70	24	1.9
FEB										
25...	K22	110	32	7.3	7.0	.3	3.0	90	34	1.7
MAR										
25...	K5	120	35	8.9	12	.5	2.1	89	49	2.2
APR										
24...	K22	91	26	6.3	19	.9	1.9	70	38	1.6
MAY										
21...	30	81	23	5.6	8.6	.4	1.5	77	28	.9
JUN										
10...	K15	140	39	9.5	11	.4	2.4	130	2.2	2.7
JUL										
07...	22	77	22	5.2	6.9	.4	1.6	67	1.2	3.5
28...	K3	78	23	5.1	4.9	.2	1.2	78	2.0	2.1
AUG										
12...	K7	65	19	4.3	4.0	.2	1.3	62	1.0	.5
SEP										
03...	K15	94	28	5.9	7.1	.3	1.5	84	<5.0	2.1

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)
OCT										
15...	.2	7.8	114	111	.16	1.5	--	--	--	--
NOV										
06...	.2	8.5	132	129	.18	1.7	.00	.390	.81	1.20
DEC										
02...	.2	9.0	153	124	.21	4.6	.00	.000	1.2	1.20
JAN										
13...	.2	9.6	143	120	.19	.77	.00	.130	.97	1.10
FEB										
25...	.2	10	148	149	.20	.44	.00	.000	.35	.35
MAR										
25...	.2	9.2	179	173	.24	.72	.01	.120	.63	.75
APR										
24...	.2	6.9	132	142	.18	3.6	.01	.130	.65	.78
MAY										
21...	.2	8.3	122	123	.17	3.2	.03	.030	.42	.45
JUN										
10...	.3	13	205	158	.28	5.1	.02	.100	.52	.62
JUL										
07...	.1	9.0	108	91	.15	.58	.06	.320	1.6	1.90
28...	.1	7.6	115	93	.16	1.5	.09	.150	1.2	1.30
AUG										
12...	.1	8.4	103	78	.14	3.3	.11	.280	.43	.71
SEP										
03...	.2	7.3	118	0	.16	3.3	.08	.320	1.9	2.20

DATE	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M
OCT									
15...	--	--	20	120	11	--	310	--	--
NOV									
06...	1.2	.080	70	280	7.8	--	64	--	--
DEC									
02...	1.2	.040	40	110	4.9	.3	250	--	--
JAN									
13...	1.1	.010	0	70	9.5	1.3	--	--	--
FEB									
25...	.35	.050	10	100	10	1.4	39	--	--
MAR									
25...	.76	.050	10	84	7.9	1.1	26	--	--
APR									
24...	.79	.030	170	130	9.5	.3	120	--	--
MAY									
21...	.48	.040	10	100	7.9	.2	77	--	--
JUN									
10...	.64	.040	10	150	9.3	.5	540	--	--
JUL									
07...	2.0	.070	180	180	15	1.3	51	--	--
28...	1.4	.030	0	200	4.9	.1	1400	16.4	19.2
AUG									
12...	.82	.050	3	960	4.0	1.0	1700	1.44	1.81
SEP									
03...	2.3	.050	30	180	7.6	.2	220	6.05	7.13

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ALUMINUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	BARIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS BA)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BERYL-LIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)
OCT 15...	1105	50	0	0	1	0	50	20	0	<1	0
DEC 02...	1110	--	--	--	1	--	--	25	--	--	0
JAN 13...	1145	7	0	0	0	100	50	20	0	<1	0
MAR 25...	1040	140	--	0	--	--	70	--	--	<1	--
JUL 07...	0845	10	--	0	--	--	100	--	--	<1	--
AUG 12...	1115	60	0	0	1	100	50	50	0	<1	0
SEP 03...	1245	--	--	--	2	--	--	40	--	--	<1

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)
OCT 15...	11	--	0	10	0	11	0	<3	10	<10	5
DEC 02...	--	--	0	--	--	2	--	--	0	--	1
JAN 13...	16	15	0	0	0	1	0	<3	0	18	3
MAR 25...	--	11	--	--	10	--	--	<3	--	<10	--
JUL 07...	--	25	--	--	10	--	--	2	--	11	--
AUG 12...	60	36	0	0	0	0	1	<3	5	<10	2
SEP 03...	--	--	<1	--	--	2	--	--	0	--	4

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	LITHIUM TOTAL RECOV-ERABLE (UG/L AS LI)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG)
OCT 15...	130	--	10	0	<4	20	15	180	.0	.0	.00
DEC 02...	--	--	10	--	--	--	--	180	--	--	.01
JAN 13...	170	250	10	10	5	30	17	160	.1	.0	.01
MAR 25...	--	240	--	--	7	--	10	--	--	.0	--
JUL 07...	--	310	--	--	22	--	37	--	--	.8	--
AUG 12...	440	370	5	10	12	50	56	180	.3	.0	.01
SEP 03...	--	--	10	--	--	--	--	210	--	--	.00

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	MOLYB-DENUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	NICKEL, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)
OCT											
15...	2	96	6	5	1	10	0	0	0	190	<3.0
DEC											
02...	--	--	0	--	--	0	--	--	0	--	--
JAN											
13...	2	16	0	3	1	0	0	0	0	200	<6.0
MAR											
25...	--	<10	--	--	1	--	--	0	--	280	<6.0
JUL											
07...	--	<10	--	--	1	--	--	0	--	180	<6.0
AUG											
12...	5	<10	0	2	2	0	0	0	0	140	<6.0
SEP											
03...	--	--	<1	--	--	5	--	--	0	--	--

DATE	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)
OCT											
15...	20	34	16	<1.2	<.3	<1.8	<.4	1.7	<.4	1.6	<.4
DEC											
02...	--	--	8	--	--	--	--	--	--	--	--
JAN											
13...	20	33	6	2.0	.3	3.0	<.4	3.9	.5	3.7	.5
MAR											
25...	--	15	--	--	--	--	--	--	--	--	--
JUL											
07...	--	35	--	--	--	--	--	--	--	--	--
AUG											
12...	30	14	10	--	1.2	<1.3	1.7	2.3	1.5	2.2	1.5
SEP											
03...	--	--	11	--	--	--	--	--	--	--	--

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE	OCT 15,80		NOV 6,80		DEC 2,80		JAN 3,81		FEB 25,81	
TIME	1105		1130		1110		1145		1300	
TOTAL CELLS/ML	310		64		250		1100		39	
DIVERSITY: DIVISION	1.1		0.7		1.7		0.4		0.9	
.CLASS	1.1		0.7		1.7		0.4		0.9	
..ORDER	1.1		0.7		2.0		1.1		0.9	
...FAMILY	1.4		0.7		2.5		1.2		0.9	
....GENUS	1.4		0.7		2.5		1.2		0.9	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...OOCYSTACEAE										
....ANKISTRODESMUS	13	4	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	--	-	--	-	41#	17	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	--	-	27	11	--	-	13#	33
..ZYGNEMATALES										
...DESMIDIACEAE										
....CLOSTERIUM	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	--	-	--	-	--	-	13	1	--	-
....MELOSIRA	--	-	--	-	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	--	-	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE										
....AMPHORA	--	-	--	-	--	-	--	-	--	-
....CYMBELLA	--	-	--	-	--	-	--	-	--	-
....EPITHEMIA	--	-	--	-	--	-	--	-	--	-
....RHOPALODIA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
....FRAGILARIA	--	-	--	-	--	-	--	-	--	-
....SYNEDRA	--	-	--	-	--	-	--	-	--	-
...GOMPHONEMATACEAE										
....GOMPHONEIS	--	-	--	-	--	-	--	-	--	-
....GOMPHONEMA	--	-	--	-	14	6	51	5	26#	67
...NAVICULACEAE										
....AMPHIPLEURA	--	-	--	-	--	-	--	-	--	-
....CALONEIS	--	-	--	-	--	-	--	-	--	-
....NAVICULA	26	8	13#	20	14	6	13	1	--	-
....STAURONEIS	--	-	--	-	--	-	--	-	--	-
...NITZSCHIACEAE										
....NITZSCHIA	77#	25	--	-	82#	33	26	2	--	-
...SURIRELLACEAE										
....CYMATOPLEURA	--	-	--	-	--	-	--	-	--	-
....SURIRELLA	--	-	--	-	--	-	--	-	--	-
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...OCHROMONADACEAE										
....DINOBRYON	--	-	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	820#	74	--	-
....ANACYSTIS	--	-	51#	80	--	-	--	-	--	-
..HORMOGONALES										
...OSCILLATORIACEAE										
....OSCILLATORIA	190#	63	--	-	55#	22	180#	16	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	14	6	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE	MAR 25,81		APR 24,81		MAY 21,81		JUN 10,81	
TIME	1030		1100		1200		1200	
TOTAL CELLS/ML	26		120		77		540	
DIVERSITY: DIVISION	0.0		0.9		0.0		1.4	
.CLASS	0.0		0.9		0.0		1.6	
..ORDER	0.0		0.9		0.0		2.0	
...FAMILY	1.0		1.8		0.7		3.2	
....GENUS	1.0		1.8		0.7		3.5	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	--	-	--	-	42	8
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	14	3
...SCENEDESMACEAE								
....SCENEDESMUS	--	-	--	-	--	-	110#	21
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	39#	33	--	-	28	5
..ZYGNEMATALES								
...DESMIDIACEAE								
....CLOSTERIUM	--	-	--	-	--	-	28	5
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	--	-	--	-	--	-	--	-
....MELOSIRA	--	-	--	-	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	13#	50	--	-	--	-	42	8
....COCCONEIS	--	-	--	-	--	-	--	-
...CYMBELLACEAE								
....AMPHORA	--	-	--	-	--	-	--	-
....CYMBELLA	--	-	--	-	--	-	--	-
....EPITHEMIA	--	-	--	-	--	-	--	-
....RHOPALODIA	--	-	--	-	--	-	--	-
...FRAGILARIACEAE								
....FRAGILARIA	--	-	--	-	--	-	70	13
....SYNEDRA	--	-	13	11	--	-	28	5
...GOMPHONEMATACEAE								
....GOMPHONEIS	--	-	--	-	--	-	--	-
....GOMPHONEMA	--	-	--	-	--	-	14	3
...NAVICULACEAE								
....AMPHIPLEURA	--	-	--	-	--	-	--	-
....CALONEIS	--	-	--	-	--	-	--	-
....NAVICULA	--	-	13	11	13#	17	14	3
....STAURONEIS	--	-	--	-	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	13#	50	52#	44	64#	83	98#	18
...SURIRELLACEAE								
....CYMATOPLEURA	--	-	--	-	--	-	--	-
....SURIRELLA	--	-	--	-	--	-	--	-
.CHRYSOPHYCEAE								
..CHRYSOMONADALES								
...OCHROMONADACEAE								
....DINOBRYON	--	-	--	-	--	-	14	3
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	--	-	14	3
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-	14	3
..HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-	14	3

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE	JUL 7,81		JUL 28,81		AUG 12,81		SEP 3,81	
TIME	0845		1300		1115		1245	
TOTAL CELLS/ML	51		1400		1700		220	
DIVERSITY: DIVISION	0.0		1.0		0.2		0.0	
.CLASS	0.0		1.0		0.2		0.0	
..ORDER	1.0		1.5		0.7		0.0	
...FAMILY	1.0		3.1		2.8		0.9	
....GENUS	1.0		3.4		3.3		1.6	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	110	8	42	3	--	-
....DICTYOSPHAERIUM	--	-	14	1	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	--	-	110	8	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	14	1	--	-
..ZYGNEMATALES								
...DESMIDIACEAE								
....CLOSTERIUM	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	26#	50	150	11	110	7	--	-
....MELOSIRA	--	-	--	-	28	2	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	70	5	84	5	--	-
....COCCONEIS	--	-	70	5	--	-	--	-
...CYMBELLACEAE								
....AMPHORA	--	-	14	1	--	-	--	-
....CYMBELLA	--	-	42	3	56	3	--	-
....EPITHEMIA	--	-	14	1	56	3	14	6
....RHOPALODIA	--	-	--	-	28	2	--	-
...FRAGILARIACEAE								
....FRAGILARIA	--	-	28	2	150	9	130#	56
....SYNEDRA	--	-	--	-	150	9	56#	25
...GOMPHONEMATACEAE								
....GOMPHONEIS	--	-	--	-	14	1	--	-
....GOMPHONEMA	--	-	70	5	56	3	--	-
...NAVICULACEAE								
....AMPHIPLEURA	--	-	14	1	--	-	--	-
....CALONEIS	--	-	--	-	14	1	--	-
....NAVICULA	--	-	210	15	280#	17	--	-
....STAURONEIS	--	-	14	1	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	26#	50	350#	25	500#	31	28	13
...SURIRELLACEAE								
....CYMATOPLEURA	--	-	--	-	28	2	--	-
....SURIRELLA	--	-	--	-	28	2	--	-
.CHRYSOPHYCEAE								
..CHRYSOMONADALES								
...OCHROMONADACEAE								
....DINOBRYON	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-	--	-
..HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	110	8	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM, EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06700500 GOOSE CREEK ABOVE CHEESMAN LAKE, CO
(Known also as Lost Park Creek)

LOCATION.--Lat 39°12'32", long 105°18'11", in sec.2, T.10 S., R.71 W., Jefferson County, Hydrologic Unit 10190002, on right bank 1.0 mi (1.6 km) upstream from water line of Cheesman Lake at elevation 6,842 ft (2,085.4 m) and 1.7 mi (2.7 km) west of Cheesman Dam.

DRAINAGE AREA.--86.6 mi² (224 km²).

PERIOD OF RECORD.--August to December 1899 (published as "at Lake Cheesman"). October 1924 to current year (no winter records in some years). Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area. WSP 1918: 1953.

GAGE.--Water-stage recorder and compound rectangular weir. Altitude of gage is 6,910 ft (2,106 m), from topographic map.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Small diversions above station for irrigation of about 100 acres (404,700 m²). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--44 years (water years 1925-30, 1936, 1940-41, 1944-47, 1951-81), 28.2 ft³/s (0.799 m³/s), 20,430 acre-ft/yr (25.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 487 ft³/s (13.8 m³/s) June 9, 1957, gage height, 4.11 ft (1.253 m), from rating curve extended above 170 ft³/s (4.8 m³/s); maximum gage height, 4.57 ft (1.393 m), May 30, 1942; minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 101 ft³/s (2.86 m³/s) at 1630 June 4, gage height, 1.64 ft (0.500 m), no peak above base of 110 ft³/s (3.1 m³/s); minimum daily, 2.0 ft³/s (0.057 m³/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	9.0	7.0	4.5	3.0	4.5	6.0	13	25	16	12	28
2	7.8	9.0	6.0	4.5	3.0	4.5	6.0	12	23	18	13	26
3	8.0	9.0	6.5	4.5	3.0	5.0	6.0	14	48	24	27	23
4	8.0	9.5	6.5	4.5	3.0	5.0	5.5	18	80	20	30	28
5	8.0	9.0	6.5	4.0	3.0	3.5	5.0	15	57	17	20	23
6	8.0	9.0	6.0	3.5	3.0	4.0	6.0	15	42	14	16	22
7	8.2	9.5	5.5	3.5	3.5	4.5	7.0	17	37	12	15	24
8	8.2	10	4.5	3.5	4.0	4.5	9.0	15	32	11	14	29
9	7.8	9.0	3.5	3.5	4.5	4.0	11	13	30	12	15	29
10	7.5	7.8	4.0	4.0	2.5	4.5	13	11	27	13	21	36
11	7.0	7.8	4.5	3.5	2.0	4.5	16	14	26	17	26	35
12	7.5	7.5	5.0	3.0	2.5	4.5	20	14	24	22	26	30
13	7.8	7.8	5.0	3.0	3.0	4.0	23	13	21	24	35	26
14	7.8	6.5	4.5	3.0	3.5	4.0	20	12	19	24	29	22
15	8.0	5.5	4.5	3.0	4.0	4.0	28	12	19	18	26	20
16	9.0	5.0	5.0	3.5	4.0	4.0	30	12	18	20	46	24
17	9.0	4.5	5.0	3.5	4.0	4.5	40	15	16	23	47	22
18	8.5	4.5	5.0	3.5	4.0	4.5	43	18	15	26	44	20
19	9.0	4.5	5.0	3.0	4.0	4.0	30	19	14	26	34	18
20	9.0	4.5	4.5	3.0	4.5	4.5	28	28	13	20	30	18
21	9.5	4.5	4.5	3.0	3.5	5.0	23	26	12	15	30	18
22	9.5	5.0	5.0	3.0	3.0	4.5	24	18	11	13	30	18
23	9.0	6.5	5.0	3.0	3.5	5.0	18	15	10	13	28	18
24	8.0	8.0	4.5	3.5	3.5	5.5	18	18	11	12	26	18
25	8.5	7.0	4.5	3.5	4.0	5.0	20	19	11	13	26	20
26	9.0	5.0	5.0	3.0	4.5	5.5	20	18	12	16	28	17
27	8.5	5.5	5.0	3.5	5.0	6.0	19	16	11	24	28	16
28	7.5	6.5	5.0	4.5	4.5	5.5	16	15	11	24	34	16
29	8.0	7.0	5.0	4.0	---	5.0	16	16	16	16	32	15
30	9.0	7.5	4.5	3.5	---	5.5	14	18	17	14	28	15
31	9.0	---	4.5	3.0	---	6.0	---	21	---	13	22	---
TOTAL	257.1	211.4	156.5	109.5	99.5	145.0	540.5	500	708	550	838	674
MEAN	8.29	7.05	5.05	3.53	3.55	4.68	18.0	16.1	23.6	17.7	27.0	22.5
MAX	9.5	10	7.0	4.5	5.0	6.0	43	28	80	26	47	36
MIN	7.0	4.5	3.5	3.0	2.0	3.5	5.0	11	10	11	12	15
AC-FT	510	419	310	217	197	288	1070	992	1400	1090	1660	1340

CAL YR 1980 TOTAL 15835.2 MEAN 43.3 MAX 326 MIN 3.5 AC-FT 31410
WTR YR 1981 TOTAL 4789.5 MEAN 13.1 MAX 80 MIN 2.0 AC-FT 9500

NOTE.--NO GAGE-HEIGHT RECORD NOV. 17 TO APR. 13.

06701500 SOUTH PLATTE RIVER BELOW CHEESMAN LAKE, CO

LOCATION.--Lat 39°12'33", long 105°16'02", in SE¼NW¼ sec.6, T.10 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank 1,400 ft (430 m) downstream from toe of Cheesman Dam and 3.8 mi (6.1 km) southwest of Deckers.

DRAINAGE AREA.--1,752 mi² (4,538 km²).

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1949. WSP 1730: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 6,609.29 ft (2,014.512 m), National Geodetic Vertical Datum of 1929. Prior to May 14, 1956, at site 370 ft (110 m) upstream at datum 0.50 ft (0.152 m) higher.

REMARKS.--Records excellent. Natural flow of stream affected by minor transmountain diversion from Colorado River basin through Boreas Pass ditch (see elsewhere in this report), Elevenmile Canyon Reservoir and Cheesman Lake (see elsewhere in this report), diversions for irrigation of about 40,000 acres (160 km²), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--57 years, 157 ft³/s (4.446 m³/s), 113,700 acre-ft/yr (140 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,640 ft³/s (131 m³/s) Apr. 29, 1970, gage height, 13.4 ft (4.08 m), from floodmarks, by computation of outflow from Cheesman Lake; minimum daily determined, 1.6 ft³/s (0.045 m³/s) Apr. 8-14, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 402 ft³/s (11.4 m³/s) at 1100 Sept. 15, gage height, 2.27 ft (0.692 m); minimum daily, 13 ft³/s (0.37 m³/s) Dec. 26 to Jan. 1, Jan. 13-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	221	23	13	30	30	68	303	28	47	149	97
2	44	221	23	27	30	29	108	221	29	47	167	99
3	36	189	23	45	30	28	110	181	28	47	221	80
4	36	148	37	45	30	26	110	120	28	75	242	68
5	36	89	40	45	30	23	110	64	28	108	262	69
6	36	39	32	40	30	23	110	50	28	127	239	69
7	36	28	32	30	30	22	134	51	28	99	223	144
8	36	28	32	21	30	23	149	51	28	78	223	241
9	36	28	32	18	31	23	149	51	27	99	223	240
10	36	28	33	18	31	23	166	52	26	165	223	284
11	35	28	34	18	31	24	149	52	56	174	211	316
12	35	29	34	15	30	25	149	52	104	189	183	316
13	35	30	34	13	30	25	83	53	142	205	132	336
14	36	30	34	13	30	24	93	54	117	205	97	369
15	38	30	34	13	30	25	205	54	81	205	97	394
16	38	30	34	14	30	26	241	54	57	205	98	402
17	38	31	34	14	30	26	292	54	25	205	99	401
18	38	24	34	14	30	26	321	39	28	221	99	356
19	38	20	34	14	30	27	321	42	34	228	105	285
20	38	20	34	14	30	28	321	52	41	228	108	229
21	38	41	34	14	30	28	319	43	39	228	108	210
22	38	54	34	22	29	27	362	30	39	174	108	210
23	37	54	25	30	29	27	397	26	39	111	108	278
24	73	34	16	30	30	27	376	26	39	111	108	344
25	159	21	14	30	30	42	362	27	42	111	109	336
26	133	21	13	30	30	54	362	27	48	113	104	327
27	126	21	13	30	30	55	345	25	48	111	90	327
28	170	21	13	30	30	54	358	25	47	113	84	327
29	221	21	13	30	---	36	354	28	47	136	92	327
30	221	23	13	30	---	29	338	30	47	151	97	324
31	221	---	13	30	---	32	---	29	---	149	97	---
TOTAL	2192	1602	848	750	841	917	6962	1966	1398	4465	4506	7805
MEAN	70.7	53.4	27.4	24.2	30.0	29.6	232	63.4	46.6	144	145	260
MAX	221	221	40	45	31	55	397	303	142	228	262	402
MIN	35	20	13	13	29	22	68	25	25	47	84	68
AC-FT	4350	3180	1680	1490	1670	1820	13810	3900	2770	8860	8940	15480

CAL YR 1980 TOTAL 101705 MEAN 278 MAX 1300 MIN 13 AC-FT 201700
WTR YR 1981 TOTAL 34252 MEAN 93.8 MAX 402 MIN 13 AC-FT 67940

06706000 NORTH FORK SOUTH PLATTE RIVER BELOW GENEVA CREEK, AT GRANT, CO

LOCATION.--Lat 39°27'26", long 105°39'29", in NW¼ sec.10, T.7 S., R.74 W., Park County, Hydrologic Unit 10190002, on left bank at Grant, 1,550 ft (470 m) downstream from Geneva Creek, and 1.3 mi (2.1 km) downstream from east portal of Harold D. Roberts tunnel.

DRAINAGE AREA.--127 mi^2 (329 km^2).

PERIOD OF RECORD.--July 1908 to November 1913 (published as "at Cassells"), June 1942 to current year. Monthly discharge only for some periods, published in WSP 1310. December 1913 to March 1918, equivalent records may be obtained by summation of flow of North Fork South Platte River at Grant (above Geneva Creek) and Geneva Creek at Grant.

REVISED RECORDS.--WSP 956: Drainage area at site at Cassells. WSP 1116: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 8,560.81 ft (2,609.335 m) National Geodetic Vertical Datum of 1929, adjustment of 1960. See WSP 1710 or 1730 for history of changes prior to July 23, 1948. July 23, 1948, to Nov. 15, 1968, water-stage recorder at site 50 ft (15 m) downstream at datum 3.49 ft (1.064 m) lower.

REMARKS.--Records excellent. Small diversions above station for irrigation of about 200 acres (809,400 m^2). Transmountain diversions from Colorado River basin to North Fork South Platte River above station through Harold D. Roberts tunnel (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--44 years (water years 1909-13, 1943-81), 69.2 ft^3/s (1.960 m^3/s), 50,140 acre-ft/yr (61.8 hm^3/yr), adjusted for inflow from Harold D. Roberts tunnel since 1964. The figure published in the 1980 report was in error; the correct figure is; 43 years (water years 1909-13, 1943-80), 70.1 ft^3/s (1.985 m^3/s), 50,790 acre-ft/yr (62.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 990 ft^3/s (28.0 m^3/s) June 7, 8, 1912, gage height, 3.30 ft (1.006 m), site and datum then in use, from rating curve extended above 530 ft^3/s (15 m^3/s); maximum gage height, 4.72 ft (1.439 m), site and datum then in use, Feb. 11, 1952 (backwater from ice); minimum daily discharge, 6.5 ft^3/s (0.18 m^3/s) Nov. 27, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 462 ft^3/s (13.1 m^3/s) at 1000 June 24, gage height, 1.77 ft (0.539 m); minimum daily, 15 ft^3/s (0.42 m^3/s) Mar. 26-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	283	27	150	112	162	109	16	76	136	404	294	370
2	273	26	149	124	162	109	16	172	175	408	317	365
3	220	70	132	158	162	109	16	233	184	411	353	370
4	197	135	120	166	162	95	16	249	63	384	351	365
5	197	220	119	166	162	86	16	314	80	377	349	365
6	231	266	115	166	162	85	17	383	158	360	349	366
7	294	265	115	166	166	85	17	407	229	343	363	256
8	320	263	115	166	166	85	17	408	295	350	376	119
9	322	271	115	166	147	85	18	408	357	329	384	131
10	316	270	114	167	125	85	23	380	377	273	352	63
11	315	266	115	165	118	76	24	359	386	257	333	66
12	318	266	112	165	118	69	25	344	381	276	302	59
13	351	265	112	163	118	70	24	344	372	277	219	57
14	372	240	112	162	119	70	25	343	341	267	169	52
15	380	225	112	162	121	70	27	308	177	260	177	51
16	331	197	112	163	121	70	28	264	336	237	180	49
17	347	138	112	165	121	70	32	188	387	134	182	47
18	374	142	112	166	121	70	36	132	384	117	174	47
19	374	150	112	166	121	70	32	154	382	110	169	45
20	375	150	112	165	122	70	30	185	381	105	212	45
21	350	146	112	163	122	68	29	181	380	148	245	44
22	335	146	112	164	121	67	29	179	388	277	235	44
23	338	150	112	166	122	68	29	181	418	383	234	44
24	301	150	112	166	122	68	39	238	440	382	247	42
25	151	150	112	165	118	37	44	277	450	387	310	42
26	27	150	112	163	108	15	46	281	412	386	378	43
27	28	150	112	162	107	15	41	286	401	352	381	44
28	27	150	112	163	108	15	40	244	398	314	376	42
29	32	150	112	164	---	15	44	142	401	307	371	36
30	31	150	112	163	---	15	43	64	412	304	363	31
31	31	---	112	162	---	15	---	85	---	309	365	---
TOTAL	7841	5344	3599	5000	3704	2036	839	7809	9681	9228	9110	3700
MEAN	253	178	116	161	132	65.7	28.0	252	323	298	294	123
MAX	380	271	150	167	166	109	46	408	450	411	384	370
MIN	27	26	112	112	107	15	16	64	63	105	169	31
AC-FT	15550	10600	7140	9920	7350	4040	1660	15490	19200	18300	18070	7340

CAL YR 1980 TOTAL 62771 MEAN 172 MAX 628 MIN 17 AC-FT 124500
WTR YR 1981 TOTAL 67891 MEAN 186 MAX 450 MIN 15 AC-FT 134700

06707000 NORTH FORK SOUTH PLATTE RIVER AT SOUTH PLATTE, CO

LOCATION.--Lat 39°24'32", long 105°10'31", in SW¼ sec.25, T.7 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank 0.2 mi (0.3 km) west of South Platte and 0.3 mi (0.5 km) upstream from mouth.

DRAINAGE AREA.--479 mi^2 (1,241 km^2).

PERIOD OF RECORD.--June 1909 to September 1910, April 1913 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1930(M), 1933(M), 1942(M). WSP 1730: 1954(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,090.55 ft (1,856.400 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to May 13, 1925, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter period, which are fair. Small diversions above station for irrigation of about 2,000 acres (8.09 km^2). Transmountain diversions from Colorado River basin to North Fork South Platte River above station through Harold D. Roberts tunnel (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--69 years (water years 1910, 1914-81), 152 ft^3/s (4.305 m^3/s), 110,100 acre-ft/yr (136 hm^3/yr), adjusted for inflow from Harold C. Roberts tunnel since 1964.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,050 ft^3/s (58.1 m^3/s) June 13, 1949, gage height, 6.30 ft (1.920 m); minimum observed, 4.0 ft^3/s (0.11 m^3/s) Dec. 8, 1932 (discharge measurement).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 572 ft^3/s (16.2 m^3/s) at 2200 June 29, gage height, 3.51 ft (1.070 m); minimum daily, 50 ft^1/s (1.42 m^3/s) Mar. 27, 29, Apr. 1, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	278	66	184	146	175	133	50	66	192	452	334	422
2	309	63	184	146	170	133	60	121	220	460	315	422
3	278	80	184	170	170	136	60	235	321	460	378	422
4	246	135	157	190	175	139	55	273	240	430	370	430
5	246	220	157	185	170	107	50	273	179	415	355	422
6	256	278	153	185	175	112	55	370	197	400	362	422
7	297	278	157	190	180	115	55	408	278	378	370	400
8	348	278	153	190	180	110	56	408	328	370	385	171
9	348	284	142	185	185	107	55	422	408	385	400	197
10	340	284	142	185	135	105	58	408	422	303	400	166
11	340	284	146	185	110	105	63	378	445	273	370	127
12	340	290	146	180	130	95	63	370	438	297	400	118
13	362	297	146	180	130	95	63	370	422	303	362	110
14	392	278	142	175	130	95	62	370	408	297	284	102
15	400	256	142	175	135	95	66	355	256	297	262	100
16	378	256	146	180	140	95	66	290	297	309	278	102
17	348	175	153	175	140	98	66	278	422	220	297	100
18	392	164	153	180	142	98	73	197	415	175	278	98
19	392	170	153	185	142	95	73	188	415	172	262	93
20	392	170	146	180	146	100	73	229	415	149	246	93
21	392	165	142	180	149	102	71	220	408	139	284	93
22	370	164	146	185	146	100	69	210	415	210	284	93
23	362	175	149	185	149	102	65	220	445	378	284	90
24	348	184	146	185	149	102	66	246	445	385	273	93
25	284	179	146	185	149	100	75	309	468	392	303	95
26	121	164	149	180	136	60	75	315	445	392	370	90
27	84	168	149	180	133	50	73	321	430	415	400	82
28	64	179	149	180	133	55	68	328	430	340	422	75
29	65	188	149	185	---	50	68	251	452	328	422	73
30	67	188	142	180	---	55	68	164	475	315	422	69
31	67	---	142	180	---	55	---	139	---	321	422	---
TOTAL	8906	6060	4695	5572	4204	2999	1920	8732	11131	10160	10594	5370
MEAN	287	202	151	180	150	96.7	64.0	282	371	328	342	179
MAX	400	297	184	190	185	139	75	422	475	460	422	430
MIN	64	63	142	146	110	50	50	66	179	139	246	69
AC-FT	17670	12020	9310	11050	8340	5950	3810	17320	22080	20150	21010	10650

CAL YR 1980 TOTAL 116506 MEAN 318 MAX 1400 MIN 37 AC-FT 231100
WTR YR 1981 TOTAL 80343 MEAN 220 MAX 475 MIN 50 AC-FT 159400

06707500 SOUTH PLATTE RIVER AT SOUTH PLATTE, CO

LOCATION.--Lat 39°24'33", long 105°10'10", in SE¼ sec.25, T.7 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank at South Platte, 200 ft (61 m) downstream from bridge on State Highway 75, and 400 ft (120 m) downstream from North Fork.

DRAINAGE AREA.--2,579 mi^2 (6,680 km^2).

PERIOD OF RECORD.--July 1887 to September 1891, May to October 1892, October 1895 to September 1897, October 1898 to June 1900, October 190C to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "at" or "near Deansbury," "at Deansbury and Platte Canyon," "at" or "near Platte Canyon," prior to 1901, and "below North Fork, at South Platte" 1914.

REVISED RECORDS.--WSP 306: 1910. WSP 1310: 1887-91, 1893, 1896, 1900, 1904, 1915(M), 1922(M), 1936(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum, of gage is 6,078.43 ft (1,852.705 m), National Geodetic Vertical Datum adjustment of 1912. See WSP 1710 or 1730 for history of changes prior to Mar. 14, 1910.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions through Boreas Pass ditch and Harold D. Roberts tunnel (see elsewhere in this report), Elevenmile Canyon Reservoir and Cheesman Lake (see elsewhere in this report), diversions above station for irrigation of about 45,000 acres (182 km^2), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,320 ft^3/s (179 m^3/s) June 8, 1921, gage height, 8.95 ft (2.728 m), from rating curve extended above 3,500 ft^3/s (99 m^3/s); minimum daily determined, 10 ft^3/s (0.28 m^3/s) Dec. 5, 1899.

EXTREMES FOR CURRENT YEAR.--Maximun discharge, 650 ft^3/s (18.4 m^3/s) at 2300 Aug. 9, gage height, 3.23 ft (0.984 m), maximum gage height, 4.01 ft (1.222 m) at 2100 Feb. 10 (backwater from ice); minimum daily discharge, 115 ft^3/s (3.26 m^3/s) Apr. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TC SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	358	328	245	190	220	190	115	434	280	516	508	504
2	389	328	238	185	205	192	190	417	310	524	492	496
3	344	313	240	230	210	198	220	462	414	532	604	500
4	304	328	212	265	215	202	210	466	337	504	609	480
5	304	368	225	255	210	161	188	410	277	520	632	466
6	313	382	225	250	215	173	200	456	289	528	632	466
7	358	358	222	245	220	175	212	473	364	516	614	470
8	406	350	220	240	225	161	256	470	400	480	622	420
9	406	354	210	230	235	166	256	480	462	476	632	445
10	406	350	215	230	170	166	271	470	470	473	627	434
11	410	350	228	225	130	164	280	452	484	476	604	452
12	406	354	232	215	180	152	280	445	516	508	592	445
13	417	364	225	210	190	152	271	445	548	536	528	445
14	445	347	220	205	195	150	154	445	552	532	400	459
15	456	322	228	205	205	150	304	434	389	528	378	476
16	442	322	235	215	210	152	354	389	414	544	403	488
17	414	238	228	205	215	157	424	389	476	466	410	488
18	442	232	225	215	212	157	442	322	462	438	392	466
19	445	238	220	220	212	152	442	295	462	442	378	406
20	448	238	208	215	218	159	445	347	462	424	386	347
21	442	238	225	210	222	168	438	340	462	414	428	313
22	424	265	230	220	208	161	448	316	462	466	428	313
23	424	292	218	230	215	161	488	310	484	508	428	325
24	414	274	192	235	220	166	476	325	496	508	420	428
25	428	242	210	230	218	161	470	389	528	520	452	434
26	286	242	198	225	200	144	466	392	508	524	516	420
27	232	230	198	225	195	136	459	392	488	544	520	406
28	232	245	200	230	190	150	438	400	492	476	504	403
29	310	255	198	240	---	142	466	325	524	473	496	400
30	328	250	185	235	---	127	442	245	540	496	500	400
31	328	---	198	235	---	118	---	220	---	500	500	---
TOTAL	11761	8997	6753	6965	5760	4963	10105	12155	13352	15392	15635	12995
MEAN	379	300	218	225	206	160	337	392	445	497	504	433
MAX	456	382	245	265	235	202	488	480	552	544	632	504
MIN	232	230	185	185	130	118	115	220	277	414	378	313
AC-FT	23330	17850	13390	13820	11420	9840	20040	24110	26480	30530	31010	25780

CAL YR 1980 TOTAL 235163 MEAN 643 MAX 2570 MIN 102 AC-FT 466400
WTR YR 1981 TOTAL 124833 MEAN 342 MAX 632 MIN 115 AC-FT 247600

06708000 SOUTH PLATTE RIVER AT WATERTON, CO

LOCATION.--Lat 39°29'18", long 105°05'32", in NE¼ sec.34, T.6 S., R.69 W., Jefferson County, Hydrologic Unit 10190002, on left bank 168 ft (51 m) downstream from bridge on State Highway 221, 0.4 mi (0.6 km) south of Waterton, 4.7 mi (7.6 km) west of Louviers, and 6 mi (10 km) upstream from Plum Creek.

DRAINAGE AREA.--2,621 mi² (6,788 km²).

PERIOD OF RECORD.--October 1976 to current year.

REMARKS.--Data supplied by U.S. Army, Corps of Engineers, Omaha District.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TUR-BID-ITY (NTU)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)
JAN 14...	0955	2.0	102	27	9.0	45	11	168
JUN 09...	1030	2.0	73	20	6.0	32	9.0	158
JUL 14...	1530	2.0	115	27	11	48	21	234
AUG 24...	1215	1.0	99	26	8.0	42	22	194

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)
JAN 14...	2	.13	.000	.010	.49	.50	.040	.000
JUN 09...	7	.08	.000	.120	.28	.40	.020	.000
JUL 14...	11	.07	.000	.000	.10	.10	.030	.000
AUG 24...	4	.05	.000	.000	.10	.10	.000	.000

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
JAN 14...	365	0	0	1	0	0	492	0	79
JUN 09...	--	--	--	--	--	--	--	--	--
JUL 14...	400	0	0	0	0	0	500	0	300
AUG 24...	--	--	--	--	--	--	--	--	--

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	THAL-LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
JAN 14...	.0	7	0	0	.00	21	.00	2	.00
JUN 09...	.0	--	--	--	--	--	--	--	--
JUL 14...	.0	0	0	0	.00	10	.00	0	.00
AUG 24...	.0	--	--	--	--	--	--	--	--

06709500 PLUM CREEK NEAR LOUVIERS, CO

LOCATION.--Lat 39°29'04", long 105°00'07", in SE¼ sec.33, T.6 S., R.68 W., Douglas County, Hydrologic Unit 10190002, on downstream side of bridge on county road from U.S. Highway 85 to Louviers, 0.8 mi (1.3 km) northeast of Louviers, 1.2 mi (1.9 km) downstream from Indian Creek, and 7.5 mi (12.1 km) upstream from mouth.

DRAINAGE AREA.--302 mi^2 (782 km^2).

PERIOD OF RECORD.--October 1947 to current year.

REVISED RECORDS.--WSP 1730: 1958, drainage area at site 2.5 mi (4.0 km) downstream. WSP 1918: 1957(M).

GAGE.--Water-stage recorder. Altitude of gage is 5,585 ft (1,702 m), from topographic map. Prior to Feb. 12, 1957, at site 2.5 mi (4.0 km) downstream and Nov. 7, 1965, to Aug. 6, 1966, at site 2.2 mi (3.5 km) downstream at different datums. Feb. 12, 1957, to Nov. 6, 1965, at present site at about present datum.

REMARKS.--Records poor. Diversions above station for irrigation. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--34 years, 28.6 ft^3/s (0.810 m^3/s), 20,720 acre-ft/yr (25.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 154,000 ft^3/s (4,360 m^3/s) June 16, 1965, gage height, 22.4 ft (6.83 m), from floodmarks, by slope-area measurement of peak flow; no flow at times in 1951-52, 1956-60, 1963-64.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 187 ft^3/s (5.30 m^3/s) at 2000 May 28, gage height, 2.26 ft (0.689 m), no peak above base of 220 ft^3/s (6.2 m^3/s); maximum gage height, 2.45 ft (0.747 m) at 1000 Feb. 7 (backwater from ice); minimum daily discharge, 0.18 ft^3/s (0.005 m^3/s) July 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	13	18	1.6	4.8	13	52	30	104	4.4	.43	.79
2	.70	14	62	1.4	1.4	27	42	52	93	5.2	.34	.66
3	.88	14	33	1.5	3.6	45	83	93	111	5.2	.34	.56
4	1.2	15	13	4.0	3.0	6.8	88	108	111	10	.30	.52
5	1.2	15	12	3.2	2.5	15	57	73	78	1.6	.34	.52
6	1.2	16	27	2.4	4.0	16	73	45	101	.97	.43	.52
7	1.3	18	16	2.8	7.0	21	45	33	104	.70	.34	.88
8	1.4	21	14	2.8	7.0	24	30	21	78	.66	.34	1.2
9	1.5	21	8.0	2.8	7.0	36	48	73	67	.58	.61	.70
10	1.6	21	6.8	12	8.0	27	62	45	48	.40	.97	.56
11	2.4	24	16	6.8	10	16	88	27	39	.40	1.2	.52
12	3.2	27	16	2.0	13	16	67	21	33	.40	.43	.48
13	3.6	30	13	1.6	16	13	93	42	24	.40	1.2	.48
14	4.0	33	4.0	2.8	16	13	88	30	42	.40	.79	.48
15	5.2	33	14	1.2	24	27	101	27	39	.40	1.5	.38
16	4.8	33	10	2.4	24	21	124	27	36	.40	16	.43
17	5.2	21	14	4.0	16	21	104	52	30	.40	18	.43
18	5.6	21	10	5.2	24	30	98	120	24	10	16	.43
19	5.6	36	13	5.6	27	33	104	98	30	1.0	9.2	.43
20	6.8	39	13	4.0	30	36	114	67	14	.20	4.4	.43
21	6.8	52	9.2	2.0	16	45	117	104	4.4	.20	2.8	.38
22	8.0	39	8.0	4.0	18	52	98	98	8.0	.20	3.6	.34
23	8.0	45	1.6	6.8	16	57	52	98	5.6	.18	4.4	.34
24	8.0	24	1.2	6.8	13	36	57	111	4.4	.22	4.8	.38
25	6.8	42	3.6	5.2	14	42	83	120	4.8	.30	2.4	.38
26	8.0	33	1.2	2.8	15	45	52	127	4.0	.34	1.2	.34
27	9.2	30	1.6	10	13	21	67	93	2.0	4.4	1.2	.34
28	12	42	2.4	13	13	15	48	152	1.4	.97	1.1	.34
29	13	24	2.0	15	---	48	27	127	3.6	.56	.70	.34
30	12	14	1.3	16	---	48	16	124	4.8	.48	.66	.34
31	13	---	2.0	14	---	48	---	108	---	.43	.66	---
TOTAL	162.88	810	366.9	165.7	366.3	913.8	2178	2346	1249.0	51.99	96.68	14.92
MEAN	5.25	27.0	11.8	5.35	13.1	29.5	72.6	75.7	41.6	1.68	3.12	.50
MAX	13	52	62	16	30	57	124	152	111	10	18	1.2
MIN	.70	13	1.2	1.2	1.4	6.8	16	21	1.4	.18	.30	.34
AC-FT	323	1610	728	329	727	1810	4320	4650	2480	103	192	30

CAL YR 1980 TOTAL 25244.13 MEAN 69.0 MAX 673 MIN .30 AC-FT 50070
WTR YR 1981 TOTAL 8722.17 MEAN 23.9 MAX 152 MIN .18 AC-FT 17300

06709600 CHATFIELD LAKE NEAR LITTLETON, CO

LOCATION.--Lat 39°33'26", long 105°03'27", in NW¼SE¼ sec.1, T.6 S., R.69 W., Jefferson County, Hydrologic Unit 10190002, near left end of dam on South Platte River at mouth of Plum Creek and 4.7 mi (7.6 km) southwest of courthouse in Littleton.

DRAINAGE AREA.--3,018 mi² (7,817 km²).

PERIOD OF RECORD.--May 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir is formed by earthfill dam. Storage began May 29, 1975. Capacity, 235,000 acre-ft (290 hm³) at elevation 5,500 ft (1,676.400 m), crest of spillway. No dead storage. Figures given represent total contents. Reservoir is for flood control and recreation.

COOPERATION.--Records furnished by U.S. Army, Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 54,690 acre-ft (67.4 hm³) May 26, 1980, elevation, 5,447.58 ft (1,660.422 m); no contents prior to May 29, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 28,110 acre-ft (34.7 hm³) Apr. 8, elevation, 5,432.98 ft (1,655.972 m); minimum, 19,540 acre-ft (24.1 hm³) Sept. 30, elevation, 5,426.53 ft (1,654.006 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	5,430.78	24,880	-
Oct. 31.	5,431.82	26,370	+1,490
Nov. 30.	5,431.88	26,460	+90
Dec. 31.	5,431.75	26,270	-190
CAL YR 1980			+290
Jan. 31.	5,432.03	26,680	+410
Feb. 28.	5,431.97	26,590	-90
Mar. 31.	5,432.74	27,750	+1,160
Apr. 30.	5,431.96	26,580	-1,170
May 31.	5,432.02	26,660	+80
June 30.	5,431.73	26,240	-420
July 31.	5,429.51	23,160	-3,080
Aug. 31.	5,427.15	20,250	-2,910
Sept. 30.	5,426.53	19,540	-710
WTR YR 1981			-5,340

06709600 CHATFIELD LAKE NEAR LITTLETON, CO--Continued

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to current year.

REMARKS.--Data supplied by U.S. Army, Corps of Engineers, Omaha District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
JAN						
12...	1320	.00	420	8.4	2.0	11.8
12...	1321	5.00	420	8.7	2.0	11.9
12...	1322	3.30	420	8.4	2.0	11.8
12...	1323	9.80	420	8.4	2.0	11.8
12...	1324	16.4	420	8.4	2.0	11.8
12...	1325	23.0	420	8.4	2.0	12.2
12...	1326	29.5	420	8.4	2.0	12.2
JUN						
10...	1000	.00	380	8.3	20.0	9.2
10...	1001	5.00	380	8.5	19.5	9.2
10...	1002	3.30	380	8.5	19.5	9.3
10...	1003	9.80	380	8.6	19.5	9.4
10...	1004	16.4	390	8.6	17.5	7.6
10...	1005	23.0	405	7.8	15.0	5.9
10...	1006	29.5	415	7.6	14.0	5.2
JUL						
16...	1250	.00	350	8.6	22.0	7.1
16...	1251	5.00	350	8.7	22.0	7.2
16...	1252	3.30	350	8.7	22.0	7.0
16...	1253	9.80	350	8.7	21.5	6.8
16...	1254	16.4	350	8.5	21.0	5.2
16...	1255	23.0	350	8.4	21.0	4.2
16...	1256	29.5	360	8.0	19.0	1.5
AUG						
26...	1310	.00	350	8.5	20.5	7.4
26...	1311	5.00	350	8.7	20.5	7.4
26...	1312	3.30	350	8.7	20.5	7.3
26...	1313	9.80	350	8.7	20.0	6.7
26...	1314	16.4	350	8.7	20.0	6.6
26...	1315	23.0	350	8.5	20.0	5.4

06709600 CHATFIELD LAKE NEAR LITTLETON, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TUR-BID-ITY (NTU)	TRANS-PAR-ENCY (SECCHI DISK) (IN)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)
JAN												
12...	1320	--	46.0	--	--	--	--	--	--	--	--	--
12...	1321	4.0	--	175	39	19	52	30	282	2	.52	.000
JUN												
10...	1000	--	78.0	--	--	--	--	--	--	--	--	--
10...	1001	2.0	--	129	36	10	65	23	250	5	.37	.000
JUL												
16...	1250	--	43.0	--	--	--	--	--	--	--	--	--
16...	1251	5.0	--	117	30	11	58	21	208	4	.02	.000
AUG												
26...	1310	--	29.0	--	--	--	--	--	--	--	--	--
26...	1311	4.0	--	117	28	11	45	27	220	1	.00	.000

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
JAN											
12...	--	--	--	--	--	--	--	--	--	--	--
12...	.260	.54	.80	.000	165	0	0	0	0	0	175
JUN											
10...	--	--	--	--	--	--	--	--	--	--	--
10...	.080	--	--	.000	--	--	--	--	--	--	--
JUL											
16...	--	--	--	--	--	--	--	--	--	--	--
16...	.070	--	--	.000	100	1	0	0	0	0	400
AUG											
26...	--	--	--	--	--	--	--	--	--	--	--
26...	.050	2.8	2.90	.010	--	--	--	--	--	--	--

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	THAL-LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
JAN											
12...	--	--	--	--	--	--	--	--	--	--	--
12...	0	75	.0	0	1	0	.00	28	.00	2	.00
JUN											
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	.2	--	--	--	--	--	--	--	--
JUL											
16...	--	--	--	--	--	--	--	--	--	--	--
16...	0	40	.3	0	0	0	--	30	.00	0	.00
AUG											
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	.4	--	--	--	--	--	--	--	--

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO

LOCATION.--Lat 39°37'08", long 105°01'07", in NE¼ sec.17, T.5 S., R.68 W., Arapahoe County, Hydrologic Unit 10190002, on left bank 200 ft (61 m) downstream from Crestline Ave. Bridge at Littleton, 3.1 mi (5.0 km) upstream from Bear Creek, and 6.3 mi (10 km) downstream from Chatfield Dam.

DRAINAGE AREA.--3,069 mi² (7,949 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1941 to current year.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,304.36 ft (1,616.769 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Nov. 23, 1948, nonrecording gage on bridge 200 ft (61 m) upstream at datum 1.00 ft (0.305 m) higher. Nov. 23, 1948, to Sept. 30, 1951, water-stage recorder at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage and flood-control reservoirs, power developments, diversions for irrigation and municipal use, and return flow from irrigated areas. Flow regulated by Chatfield Dam since May 29, 1975 (station 06709600).

AVERAGE DISCHARGE.--33 years (water years 1942-74), 234 ft³/s (6.627 m³/s), 169,500 acre-ft/yr (209 hm³/yr), prior to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 110,000 ft³/s (3,100 m³/s) June 16, 1965, gage height, 15.45 ft (4.709 m), from floodmarks, estimated from contracted-opening and flow-over-road measurement of peak flow at point 1.6 mi (2.6 km) downstream and slope-area measurement of peak flow on Plum Creek at point 12.7 mi (20.4 km) upstream; minimum daily, 7.2 ft³/s (0.20 m³/s) Oct. 2, 1956.
Stage and discharge of the flood of June 16, 1965, are the greatest since at least 1894.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 455 ft³/s (12.9 m³/s) at 0900 May 31, gage height, 3.03 ft (0.924 m); minimum daily, 13 ft³/s (0.37 m³/s) Apr. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	151	57	47	61	39	13	67	108	43	126	58
2	30	279	54	46	61	39	14	65	108	45	124	59
3	33	239	49	45	67	40	43	85	108	51	123	113
4	34	71	39	45	80	58	48	73	127	51	116	180
5	36	67	32	42	78	79	43	98	167	48	89	131
6	34	65	36	36	78	71	43	164	130	56	49	104
7	26	64	36	32	78	64	43	113	85	79	45	64
8	24	60	36	26	78	58	49	56	71	94	49	63
9	23	58	36	25	82	56	64	52	52	96	57	62
10	23	60	34	25	85	56	101	45	50	79	60	91
11	25	58	36	26	90	55	111	87	49	55	51	150
12	25	55	35	26	93	55	146	149	53	58	55	188
13	25	51	36	28	82	55	130	128	49	67	54	190
14	25	52	35	31	82	55	158	75	46	68	53	190
15	24	51	38	31	82	55	100	71	46	104	96	190
16	23	48	44	30	82	49	98	79	44	141	152	135
17	23	26	44	30	70	40	123	115	61	145	155	71
18	22	23	44	31	66	43	211	143	97	140	157	67
19	22	30	47	36	78	42	214	179	97	138	155	65
20	28	56	51	52	79	43	215	120	70	141	158	64
21	45	57	52	64	81	53	164	89	37	180	178	64
22	45	58	52	75	81	47	89	88	36	210	201	68
23	45	63	52	90	68	44	109	86	34	198	209	68
24	46	64	50	105	55	43	124	81	33	170	210	72
25	48	63	46	105	28	45	104	80	33	126	209	88
26	48	61	45	80	26	41	104	79	34	132	145	109
27	91	60	46	63	30	40	103	68	35	165	63	109
28	233	60	46	48	38	51	114	72	37	202	62	86
29	288	60	46	48	---	47	148	110	59	166	63	50
30	190	57	47	61	---	29	109	299	47	130	62	49
31	78	---	47	63	---	21	---	306	---	126	58	---
TOTAL	1692	2167	1348	1492	1959	1513	3135	3322	2003	3504	3384	2998
MEAN	54.6	72.2	43.5	48.1	70.0	48.8	105	107	66.8	113	109	99.9
MAX	288	279	57	105	93	79	215	306	167	210	210	190
MIN	22	23	32	25	26	21	13	45	33	43	45	49
AC-FT	3360	4300	2670	2960	3890	3000	6220	6590	3970	6950	6710	5950

CAL YR 1980 TOTAL 177744 MEAN 486 MAX 2410 MIN 22 AC-FT 352600
WTR YR 1981 TOTAL 28517 MEAN 78.1 MAX 306 MIN 13 AC-FT 56560

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1970 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1979 to September 1980.
WATER TEMPERATURES: April 1970 to current year.

INSTRUMENTATION.--Temperature recorder since April 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 656 micromhos Oct. 15, 1980; minimum daily, 118 micromhos Dec. 3, 1979.
WATER TEMPERATURES: Maximum, 32°C June 12, 1979; minimum, freezing point on many days during winter months most years.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 656 micromhos Oct. 15; minimum daily, 123 micromhos Jan. 7.
WATER TEMPERATURES: Maximum, 27.0°C Aug. 5; minimum, 0.0°C on several days during December to March.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	SPECIFIC CONDUCTANCE LAB (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	NITROGEN DISSOLVED (MG/L AS N)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV											
17...	1300	25	610	624	8.1	6.0	2.4	13.6	1.6	--	K25
JAN											
19...	1300	29	520	515	7.7	4.0	5.2	11.2	1.8	K30	K120
MAR											
17...	1230	40	460	483	7.8	7.0	33	9.7	1.5	180	K20
MAY											
06...	1345	175	450	429	7.7	15.5	17	8.6	1.6	280	K1600
JUL											
13...	1100	60	490	466	7.9	20.5	4.0	8.8	1.3	--	--
13...	1300	--	--	--	--	--	--	--	--	290	720
SEP											
09...	1215	64	450	445	8.1	21.0	3.1	11.6	.69	140	K18400

DATE	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
NOV										
17...	220	59	17	50	1.5	3.4	140	110	41	.9
JAN										
19...	180	49	13	39	1.3	2.7	110	81	36	.9
MAR										
17...	170	47	12	33	1.1	2.7	100	74	32	.9
MAY										
06...	150	41	11	29	1.0	2.9	94	64	28	.9
JUL										
13...	170	50	12	30	1.0	3.0	110	68	42	1.0
13...	--	--	--	--	--	--	--	--	--	--
SEP										
09...	150	42	12	32	1.2	3.1	110	70	28	1.0

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
NOV										
17...	8.6	387	377	.53	26.0	.71	.71	.080	.070	.84
JAN										
19...	6.4	300	297	.41	.32	.71	.73	.090	.100	1.1
MAR										
17...	5.2	276	270	.38	29.8	.79	.77	.100	.090	.64
MAY										
06...	3.4	256	240	.35	121	.60	.60	.210	.180	.89
JUL										
13...	6.8	279	281	.38	45.2	.37	.36	.100	.090	.83
13...	--	--	--	--	--	--	--	--	--	--
SEP										
09...	9.3	274	264	.37	47.3	.13	.07	.100	.120	.87

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)
NOV										
17...	.85	.92	.00	.92	1.0	.290	.040	9.7	--	2100
JAN										
19...	1.0	1.20	.10	1.1	1.9	.040	.020	--	--	--
MAR										
17...	.66	.74	.00	.75	1.5	.070	.010	--	5.4	22000
MAY										
06...	.81	1.10	.11	.99	1.7	.090	.040	--	6.5	660
JUL										
13...	.82	.93	.02	.91	1.3	.040	.020	--	4.6	1000
13...	--	--	--	--	--	--	--	--	--	--
SEP										
09...	.50	.97	.35	.62	1.1	.050	.010	--	4.0	35000

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
MAR										
17...	1230	0	0	100	70	0	<1	0	0	1
MAY										
06...	1345	1	1	100	60	0	<1	20	0	2
JUL										
13...	1100	1	1	0	100	0	<1	0	0	1
20...	1000	--	--	--	--	2	--	--	--	--
20...	1200	--	--	--	--	2	--	--	--	--
20...	1400	--	--	--	--	2	--	--	--	--
SEP										
09...	1215	1	1	0	60	0	1	10	0	0

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
MAR										
17...	<3	5	0	1200	20	0	0	190	50	.1
MAY										
06...	<1	6	1	1960	30	7	0	240	160	.0
JUL										
13...	<3	4	1	360	60	0	4	170	120	.1
20...	--	6	--	--	--	4	--	210	--	--
20...	--	8	--	--	--	1	--	210	--	--
20...	--	5	--	--	--	0	--	210	--	--
SEP										
09...	<3	3	1	380	19	20	10	100	45	.1

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR									
17...	.0	3	1	0	0	0	0	20	<3
MAY									
06...	.0	4	1	0	0	0	0	20	<3
JUL									
13...	.0	1	2	0	0	1	0	30	10
20...	--	--	--	--	--	--	--	30	--
20...	--	--	--	--	--	--	--	30	--
20...	--	--	--	--	--	--	--	30	--
SEP									
09...	.0	1	0	1	1	0	0	10	<3

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	620	455	489	---	465	479	643	402	433	417	438	425
2	613	431	482	504	450	478	640	408	431	442	442	423
3	613	417	476	508	449	475	639	409	435	462	438	421
4	492	492	474	511	448	---	631	410	432	450	435	421
5	613	494	441	507	450	476	641	412	434	437	436	421
6	462	491	476	422	450	473	604	394	442	447	432	425
7	563	489	510	123	452	473	628	410	442	452	432	426
8	688	526	510	380	452	477	637	410	436	391	433	427
9	491	526	437	392	453	474	638	414	450	426	433	428
10	486	524	441	419	450	487	588	410	453	450	433	427
11	490	611	511	416	449	483	466	408	442	459	430	427
12	493	614	512	415	450	444	472	409	451	460	429	432
13	491	621	476	---	451	486	481	390	439	429	430	430
14	457	530	478	---	453	489	419	407	452	455	427	427
15	656	528	482	---	450	489	414	407	449	456	427	463
16	612	511	480	---	462	447	409	384	465	460	427	464
17	629	509	477	---	466	496	402	411	457	444	428	465
18	234	508	479	---	463	495	411	407	470	447	418	468
19	488	507	512	420	459	495	408	407	469	460	427	467
20	486	506	512	416	462	492	402	409	468	458	428	465
21	533	507	511	418	465	494	413	408	462	442	422	465
22	487	513	510	446	467	491	408	398	462	448	424	465
23	490	511	474	357	475	478	407	411	461	454	426	466
24	491	509	473	344	470	603	411	412	462	462	424	468
25	643	509	472	481	478	601	400	412	461	451	415	473
26	414	504	471	432	475	603	412	408	464	456	422	471
27	418	507	470	431	472	616	410	404	464	462	422	470
28	417	506	472	433	474	636	406	397	464	457	417	470
29	416	507	469	431	---	634	410	415	463	440	410	470
30	417	507	505	432	---	639	410	406	462	427	417	473
31	412	---	500	426	---	654	---	409	---	458	422	---

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
JAN 19...	1300	29	9	.71	JUL 13...	1100	60	12	1.9
MAY 06...	1345	175	69	33	SEP 09...	1215	64	11	1.9

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
17.5	13.0	13.0	9.0	6.0	4.0	5.5	2.0	2.0	.0	7.0	2.5
17.5	12.0	12.0	10.0	6.0	4.5	6.0	1.5	.5	.0	7.0	2.0
18.0	11.5	11.0	10.0	6.0	4.0	5.0	1.5	1.5	.0	6.0	3.0
18.0	12.0	13.0	9.0	7.5	4.0	4.5	1.5	2.0	.0	4.0	.0
18.0	12.5	13.5	9.5	7.0	5.0	2.5	1.0	2.5	.0	7.0	.0
18.5	12.5	13.0	9.0	6.0	4.5	4.5	1.0	2.5	.0	---	---
19.5	12.5	14.0	10.0	4.5	4.5	5.0	1.0	3.0	.0	---	---
19.5	12.5	13.5	9.5	5.5	3.0	4.5	1.0	3.0	.0	---	---
18.5	12.0	12.0	9.0	5.0	3.0	4.5	1.0	---	---	---	---
17.0	12.0	12.0	8.0	5.0	2.5	4.5	1.5	---	---	9.5	---
16.5	11.0	12.0	8.0	5.0	3.5	4.5	1.0	---	---	9.0	3.0
17.0	11.5	12.5	9.0	5.0	3.0	2.5	.5	4.0	1.0	9.0	3.0
16.5	12.5	11.5	7.5	5.0	1.5	2.5	.5	5.0	.5	9.0	3.0
16.0	11.5	8.0	7.0	5.0	1.5	2.5	.5	4.0	.5	10.0	2.5
16.5	13.0	9.0	6.5	5.0	2.0	2.0	.5	5.0	1.0	9.5	2.5
12.0	10.5	7.5	6.5	5.5	2.0	2.5	.5	6.0	.5	10.0	2.0
13.0	9.5	7.5	4.5	5.5	2.5	3.0	.5	5.0	1.0	7.0	3.0
13.0	9.0	9.0	4.5	5.0	2.5	3.5	.5	5.0	1.0	9.0	2.0
14.0	9.0	8.0	4.5	2.5	2.0	2.5	1.0	5.0	1.0	8.5	2.5
13.5	9.0	8.0	4.5	3.5	2.0	2.5	.0	5.0	1.0	9.0	4.0
14.0	9.5	7.5	4.0	4.0	2.0	2.5	.0	5.0	.0	6.5	4.0
12.5	9.5	7.5	4.5	3.5	2.0	4.0	.0	6.0	.0	10.0	2.5
11.5	9.0	7.0	5.5	4.0	2.0	4.5	.5	5.0	1.0	10.5	4.0
11.0	7.0	6.5	6.0	2.5	1.5	4.0	1.0	7.0	1.0	8.5	5.0
[illegible]	8.0	7.5	4.5	3.5	1.0	3.5	.0	7.0	1.0	11.5	4.0
9.0	8.0	7.0	4.5	5.0	2.5	2.0	.0	5.0	2.0	11.0	5.0
9.5	8.0	5.5	4.0	6.0	2.5	3.0	.0	5.0	1.0	11.5	5.5
11.5	8.5	7.5	5.0	5.0	3.0	3.5	.0	6.0	.0	10.5	2.0
11.5	9.0	6.5	4.5	6.0	2.5	3.5	.0	---	---	10.5	2.0
12.0	7.0	7.0	4.0	6.0	1.5	3.0	.0	---	---	12.5	6.5
12.5	8.0	---	---	5.5	2.0	.5	.0	---	---	12.5	5.0

MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
14.5	5.0	17.5	9.0	20.5	12.0	---	---	24.5	19.0	24.5	15.5
15.5	7.0	17.0	9.5	20.5	12.5	---	---	26.5	18.5	23.5	16.0
9.0	4.5	15.5	11.0	19.0	13.0	---	---	26.0	18.0	21.5	16.5
8.5	4.5	13.0	9.5	19.0	12.5	---	---	25.5	19.5	21.0	17.5
12.5	4.5	15.5	9.5	19.5	13.5	---	---	27.0	18.5	18.0	24.5
14.0	5.5	15.5	10.0	22.0	13.5	---	---	23.0	19.5	22.5	19.0
12.5	7.0	17.0	10.0	21.0	13.5	---	---	24.5	18.0	21.0	17.5
12.0	7.0	12.0	9.0	22.0	13.0	---	---	25.5	16.5	24.5	17.0
15.5	6.5	11.0	8.0	21.5	13.5	---	---	18.5	16.0	24.0	17.0
14.5	7.0	17.5	7.5	20.5	14.0	---	---	18.5	16.5	23.5	16.0
15.0	8.0	15.0	9.0	23.0	14.0	---	---	22.5	16.5	23.0	18.0
15.0	9.5	17.0	10.5	23.5	15.0	---	---	22.5	17.0	23.0	17.5
15.0	9.5	15.0	10.5	21.5	13.0	22.0	---	24.0	16.5	23.0	17.5
14.0	8.5	19.0	9.5	18.0	13.0	24.5	16.5	24.0	16.5	---	17.0
12.5	7.0	17.0	10.5	20.5	11.0	25.0	18.0	22.0	17.5	---	---
15.0	7.0	12.5	11.0	---	11.5	24.0	18.0	24.0	18.0	---	---
15.5	7.5	12.0	9.5	---	---	23.5	18.5	24.5	17.5	21.5	14.5
12.5	8.5	11.0	9.0	---	---	24.5	18.0	24.5	18.0	24.0	14.0
12.5	9.5	16.0	11.0	---	---	26.0	18.0	24.5	18.0	21.5	15.5
12.5	9.5	17.0	10.0	---	---	25.5	18.0	23.5	18.0	21.5	15.5
15.0	9.0	17.5	10.0	---	---	25.0	19.0	24.0	18.0	22.5	16.5
14.5	8.0	18.5	10.0	---	---	22.5	19.0	21.5	19.0	22.5	15.0
16.0	7.0	17.0	11.0	---	---	25.5	19.5	24.0	18.0	21.5	15.0
16.5	6.5	20.5	13.5	---	---	25.0	19.0	22.0	18.5	19.5	16.0
17.0	8.5	20.0	11.5	---	---	24.0	18.5	24.0	18.5	21.0	14.5
17.5	9.5	18.0	12.0	---	---	24.0	18.0	23.0	18.5	21.0	15.0
16.5	9.0	21.0	12.5	---	---	24.0	18.0	23.5	17.5	21.5	14.0
17.5	9.5	18.0	13.5	---	---	25.0	18.5	25.0	16.5	21.5	14.5
15.0	9.5	14.5	13.0	---	---	26.0	18.5	23.5	16.5	18.0	14.0
16.0	9.5	19.0	12.5	---	---	25.0	18.0	24.5	16.5	17.0	14.5
---	---	16.5	13.5	---	---	24.0	18.5	21.0	17.0	---	---

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE	NOV 17,80	MAR 17,81	MAY 6,81	JUL 13,81	SEP 9,81
TIME	1300	1230	1345	1100	1215
TOTAL CELLS/ML	2100	22000	660	1000	35000
DIVERSITY: DIVISION	1.4	0.0	1.3	1.4	0.3
.CLASS	1.4	0.0	1.3	1.4	0.3
..ORDER	1.6	0.0	1.4	2.0	1.2
...FAMILY	1.6	0.1	2.8	3.1	1.4
....GENUS	1.9	0.1	2.8	3.1	1.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	--	-	13	1	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	--	-	--	-	--	-	*	0
....OOCYSTIS	--	-	--	-	13	2	13	1	--	-
...SCENEDESMACEAE										
....CRUCIGENIA	52	2	--	-	--	-	--	-	--	-
....SCENEDESMUS	100	5	--	-	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	--	-	--	-	39	4	*	0
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	170	8	*	0	13	2	--	-	--	-
....MELOSIRA	--	-	--	-	--	-	26	3	*	0
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	--	-	52	8	--	-	*	0
....COCCONEIS	--	-	--	-	--	-	26	3	--	-
....RHOICOSPHENIA	--	-	--	-	--	-	26	3	*	0
...CYMBELLACEAE										
....CYMBELLA	26	1	*	0	13	2	52	5	300	1
...DIATOMACEAE										
....DIATOMA	--	-	--	-	26	4	--	-	250	1
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	21000*	98	39	6	--	-	--	-
....FRAGILARIA	180	6	--	-	--	-	13	1	--	-
....SYNEDRA	13	1	--	-	--	-	--	-	*	0
...GOMPHONEMATACEAE										
....GOMPHONEMA	--	-	--	-	39	6	13	1	*	0
...NAVICULACEAE										
....NAVICULA	39	2	*	0	160*	24	65	6	500	1
...NITZSCHIACEAE										
....NITZSCHIA	13	1	*	0	65	10	190*	19	*	0
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	90	4	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE										
....CRYPTOMONAS	13	1	--	-	26	4	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	--	-	*	0
....ANACYSTIS	--	-	--	-	--	-	140	14	--	-
....GOMPHOSPHAERIA	--	-	--	-	--	-	--	-	12000*	33
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	78	8	16000*	44
....APHANIZOMENON	1400*	66	--	-	220*	33	--	-	5900*	17
...OSCILLATORIACEAE										
....OSCILLATORIA	--	-	--	-	--	-	300*	29	--	-
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-	*	0
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	13	1	--	-	--	-	13	1	--	-
....TRACHELOMONAS	13	1	--	-	--	-	--	-	--	-

06710500 BEAR CREEK AT MORRISON, CO

LOCATION.--Lat 39°39'11", long 105°11'43", in SE¼SW¼ sec.35, T.4 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank at Morrison, 180 ft (55 m) upstream from bridge on State Highway 8 and 0.2 mi (0.3 km) upstream from Mount Vernon Creek.

DRAINAGE AREA.--164 mi² (425 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1887 to September 1891, May 1895 to December 1901, February 1902 (gage heights only), October 1919 to current year. No winter records for water years 1888-90, 1896, 1898, 1900. Monthly discharge only for some periods, published in WSP 1310. Published as "near Morrison" 1900-1902, as "at Starbuck" 1919-28, and as "at Idledale" 1929-34.

REVISED RECORDS.--WSP 976: 1942. WSP 1310: 1888, 1890-91, 1898, 1935(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,780.43 ft (1,761.875 m), National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1934. Oct. 1, 1934, to Oct. 10, 1961, water-stage recorder at site 80 ft (24 m) downstream at same datum.

REMARKS.--Records good. Small diversions for irrigation of about 1,000 acres (4.05 km²) above station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--66 years (water years 1891, 1897, 1899, 1901, 1920-81), 52.6 ft³/s (1.490 m³/s), 38,110 acre-ft/yr (47.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,600 ft³/s (244 m³/s), estimated, July 24, 1896; minimum daily, 0.8 ft³/s (0.023 m³/s) Nov. 26, 1939, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 235 ft³/s (6.66 m³/s) at 1730 July 18, gage height, 5.93 ft (1.807 m), no peak above base of 250 ft³/s (7.1 m³/s); minimum daily, 2.0 ft³/s (0.06 m³/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	20	16	13	7.6	10	17	25	57	30	25	37
2	16	18	16	11	6.0	11	18	25	48	28	23	35
3	16	18	17	12	6.5	12	24	35	80	53	24	33
4	16	18	16	11	6.0	14	19	36	76	43	24	35
5	16	17	16	11	5.0	13	14	27	63	35	21	33
6	16	17	13	7.6	3.6	14	18	35	53	29	20	30
7	16	17	12	8.0	3.6	14	19	30	51	24	22	43
8	16	17	13	8.6	3.0	11	20	25	50	26	21	42
9	16	14	14	11	2.8	13	20	25	47	28	23	47
10	16	16	17	9.8	2.5	11	20	23	43	35	29	48
11	17	16	20	8.3	2.0	13	22	24	42	30	38	48
12	16	16	18	9.0	4.0	13	24	22	39	32	41	47
13	16	18	14	9.0	4.2	14	25	26	35	39	52	44
14	18	16	14	9.0	2.8	12	24	27	34	46	43	43
15	20	10	17	8.5	3.9	13	26	26	33	35	38	42
16	20	9.5	16	7.5	5.5	13	25	28	29	39	45	44
17	19	9.0	16	8.0	8.0	14	21	30	27	41	51	44
18	17	10	14	8.0	11	14	23	39	24	63	45	44
19	16	11	14	8.0	11	12	25	33	22	44	40	39
20	18	12	13	8.5	12	13	36	34	22	35	35	38
21	18	14	16	9.0	12	14	28	34	20	29	38	38
22	18	16	16	9.5	13	13	25	30	20	27	38	35
23	18	18	14	9.4	11	14	22	26	20	28	38	35
24	14	19	14	8.3	11	14	22	27	20	25	36	36
25	14	19	13	8.6	11	14	24	27	20	27	37	39
26	16	17	15	7.5	11	19	25	28	21	29	35	34
27	20	16	15	8.0	10	19	28	30	22	49	36	30
28	18	18	15	8.0	9.8	20	27	36	22	35	36	28
29	14	18	14	7.2	---	20	27	58	31	26	32	29
30	20	17	13	7.2	---	20	25	63	35	25	38	30
31	21	---	15	6.9	---	16	---	53	---	24	34	---
TOTAL	528	471.5	466	276.4	199.8	437	693	987	1106	1059	1058	1150
MEAN	17.0	15.7	15.0	8.92	7.14	14.1	23.1	31.8	36.9	34.2	34.1	38.3
MAX	21	20	20	13	13	20	36	63	80	63	52	48
MIN	14	9.0	12	6.9	2.0	10	14	22	20	24	20	28
AC-FT	1050	935	924	548	396	867	1370	1960	2190	2100	2100	2280

CAL YR 1980 TOTAL 32259.5 MEAN 88.1 MAX 708 MIN 9.0 AC-FT 63990
WTR YR 1981 TOTAL 8431.7 MEAN 23.1 MAX 80 MIN 2.0 AC-FT 16720

06710500 BEAR CREEK AT MORRISON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year.

REMARKS.--Data supplied by U.S. Army, Corps of Engineers, Omaha District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TUR-BID-ITY (NTU)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
JAN 14...	1530	1.0	124	30	12	23	19	172	0
JUN 08...	0930	11	46	13	3.0	16	10	90	34
JUL 15...	1030	7.0	34	10	3.0	11	4.0	40	22
AUG 25...	1030	9.0	39	10	4.0	8.0	6.0	44	6

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
JAN 14...	1.6	.000	.500	.20	.70	.720	.670	.0
JUN 08...	.28	.000	.020	.58	.60	.150	.120	.0
JUL 15...	.10	.000	.000	.40	.40	.080	.060	.0
AUG 25...	.17	.000	.000	.20	.20	.130	.100	.0

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
JAN 14...	71	0	--	0	--	0	137	0	10
JUL 15...	900	0	0	0	0	0	1300	0	40

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	THAL-LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)	CHLORO-PHYLL A PHYTO-PLANK-TON, UNCORR. (UG/L)
JAN 14...	11	0	0	.00	9	3.0	0	.00	.000
JUL 15...	0	0	0	.00	10	.00	0	.00	--

06711105 BEAR CREEK BELOW BEAR CREEK LAKE AT LAKEWOOD, CO

LOCATION.--Lat 39°39'26", long 105°07'59", in SW¼SE¼ sec.32, T.4 S., R.69 W., Jefferson County, Hydrologic Unit 10190002, about 100 ft (30.5 m) below gaging station and 3 mi (4.8 km) east of Morrison.

PERIOD OF RECORD.--February 1980 to current year.

REMARKS.--Data supplied by U.S. Army, Corps of Engineers, Omaha District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
JAN 15...	1310	2.0	172	65	2.0	94	15	296	0
JUN 08...	1130	2.0	132	37	9.0	84	16	252	10
JUL 15...	1330	6.0	131	28	15	80	14	180	15
AUG 25...	1440	2.0	115	32	9.0	70	15	190	0

DATE	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
JAN 15...	.09	.000	.000	.20	.20	.030	.000	.0
JUN 08...	.03	.000	.020	.78	.80	.070	.020	.0
JUL 15...	.02	.000	.010	.99	1.00	.040	.000	.0
AUG 25...	.01	.000	.030	.67	.70	.050	.020	.0

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
JAN 15...	82	0	0	0	0	3	110	0	143
JUL 15...	300	0	0	0	0	0	400	30	30

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	THALLIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
JAN 15...	7	1	0	.00	8	.00	0	.00
JUL 15...	0	0	0	.00	10	.00	0	.00

06711500 BEAR CREEK AT MOUTH, AT SHERIDAN, CO

LOCATION.--Lat 39°39'08", long 105°01'57", in NW¼NW¼ sec.5, T.5 S., R.68 W., Arapahoe County, Hydrologic Unit 10190002, on left bank just downstream from bridge on road to Fort Logan Mental Health Center, at Highway Department maintenance building at northwest city limits of Sheridan, 1.3 mi (2.1 km) upstream from mouth, and 2.1 mi (3.4 km) west of city hall in Englewood.

DRAINAGE AREA.--260 mi² (673 km²).

PERIOD OF RECORD.--April to November 1914, March 1927 to current year. Monthly discharge only prior to October 1933, published in WSP 1310. Published as "at Sheridan Junction" 1934-41.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,295 ft (1,614 m), from topographic map. See WSP 1710 or 1730 for history of changes prior to Oct. 9, 1953. Oct. 9, 1953, to Aug. 6, 1969, water-stage recorder at present site at datum 1.0 ft (0.30 m) higher.

REMARKS.--Records good. Flow regulated by Bear Creek Lake since July 1979. Storage and diversions above station for irrigation of about 12,000 acres (48.6 km²). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--54 years, 38.8 ft³/s (1.099 m³/s), 28,110 acre-ft/yr (34.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,150 ft³/s (231 m³/s) May 7, 1969, gage height, 10.5 ft (3.20 m), present datum, from flood marks, from rating curve extended above 3,400 ft³/s (96 m³/s); no flow July 13, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 383 ft³/s (10.8 m³/s) at 1700 June 3, gage height, 4.07 ft (1.241 m); minimum daily, 4.7 ft³/s (0.13 m³/s) Feb. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	14	11	13	8.5	5.1	10	6.3	59	12	12	18
2	10	14	11	13	8.2	5.9	9.5	5.9	58	11	13	16
3	10	13	11	11	7.8	9.0	17	16	103	20	11	15
4	10	14	11	10	7.8	21	12	18	130	27	10	15
5	12	13	11	10	7.6	17	10	14	88	20	7.9	15
6	11	14	11	9.7	8.5	12	9.0	14	38	15	8.1	14
7	9.7	13	12	9.5	7.9	15	9.0	11	25	12	8.9	20
8	10	14	13	9.5	7.6	11	13	10	21	10	9.0	23
9	11	13	14	9.2	7.7	9.8	9.4	16	17	12	16	24
10	12	13	12	10	7.0	9.6	8.5	14	16	12	18	25
11	13	13	11	10	8.1	9.1	8.8	14	16	17	16	22
12	14	13	16	9.6	11	9.0	9.4	13	20	19	25	19
13	15	16	16	11	12	8.7	9.7	22	18	22	30	15
14	14	15	13	11	12	8.5	9.4	16	13	24	25	14
15	17	14	14	10	12	8.5	8.7	17	12	28	21	12
16	18	13	13	10	13	8.4	8.6	20	11	18	18	14
17	18	11	12	10	14	8.5	7.4	52	11	17	22	18
18	16	11	11	12	12	13	6.5	49	9.9	14	21	19
19	14	11	13	12	9.7	9.0	12	32	10	29	18	16
20	14	11	14	10	9.1	10	25	23	12	18	15	16
21	13	11	14	9.9	14	16	23	19	11	10	13	15
22	14	11	14	9.9	9.8	11	17	14	10	9.5	14	15
23	14	14	14	9.5	9.5	10	13	15	7.7	14	16	13
24	15	14	13	9.1	8.9	11	11	14	8.0	12	15	13
25	13	15	16	9.0	8.4	11	11	12	7.9	11	15	14
26	13	13	24	8.8	14	11	8.8	13	8.1	24	14	15
27	15	12	26	8.6	7.5	9.5	7.6	18	11	33	14	14
28	16	13	27	8.5	4.7	29	5.8	31	12	27	15	13
29	15	13	27	8.5	---	27	5.5	65	13	15	16	12
30	13	12	25	8.6	---	17	5.9	77	11	12	17	13
31	14	---	17	8.7	---	12	---	46	---	12	18	---
TOTAL	414.7	391	467	309.6	268.3	372.6	321.5	707.2	787.6	536.5	491.9	487
MEAN	13.4	13.0	15.1	9.99	9.58	12.0	10.7	22.8	26.3	17.3	15.9	16.2
MAX	18	16	27	13	14	29	25	77	130	33	30	25
MIN	9.7	11	11	8.5	4.7	5.1	5.5	5.9	7.7	9.5	7.9	12
AC-FT	823	776	926	614	532	739	638	1400	1560	1060	976	966

CAL YR 1980 TOTAL 36031.6 MEAN 98.4 MAX 1110 MIN 3.0 AC-FT 71470
WTR YR 1981 TOTAL 5554.9 MEAN 15.2 MAX 130 MIN 4.7 AC-FT 11020

06711590 SOUTH PLATTE RIVER AT FLORIDA AVENUE AT DENVER, CO

LOCATION.--Lat 39°41'23", long 104°59'57", in SE¼NE¼ sec.21, T.4 S., R.68 W., Denver County, Hydrologic Unit 10190002, on left bank, 150 ft (46 m) downstream from Florida Avenue Bridge, 125 ft (38 m) upstream from Sanderson Gulch in Denver.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--March to September 1981.

GAGE.--Water-stage recorder. Altitude of gage is 5,230 ft (1,594 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage and flood-control reservoirs, power developments, diversions for irrigation and municipal use, and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 765 ft^3/s (21.7 m^3/s) at 1500 May 28, gage height, 5.00 ft (1.524 m), from rating curve extended above 240 ft^3/s (6.80 m^3/s); minimum daily, 80 ft^3/s (2.27 m^3/s) Apr. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	81	107	212	97	172	115
2						---	80	103	202	95	170	106
3						---	159	208	272	108	168	143
4						---	110	153	255	118	164	234
5						---	94	132	262	108	135	187
6						---	92	219	216	104	120	170
7						---	99	177	150	148	95	158
8						---	112	112	132	160	99	140
9						---	110	128	108	152	134	126
10						---	120	106	102	132	175	140
11						---	140	115	102	107	120	209
12						---	160	194	165	131	130	234
13						---	180	213	107	181	140	236
14						---	200	128	100	138	128	234
15						---	132	120	102	180	144	233
16						---	126	156	96	206	211	213
17						---	134	286	100	217	226	123
18						118	229	254	141	233	212	115
19						94	248	228	146	221	202	110
20						106	260	178	130	197	199	108
21						156	226	140	92	212	216	109
22						113	140	136	92	241	240	120
23						99	142	129	87	241	248	119
24						99	158	122	87	224	243	123
25						103	135	120	86	177	245	136
26						95	132	123	88	206	205	165
27						91	132	136	87	284	117	159
28						200	142	215	89	260	110	146
29						216	172	300	122	229	110	105
30						138	152	305	155	177	112	103
31						92	---	331	---	171	111	---
TOTAL						---	4397	5374	4085	5455	5101	4619
MEAN						---	147	173	136	176	165	154
MAX						---	260	331	272	284	248	236
MIN						---	80	103	86	95	95	103
AC-FT						---	8720	10660	8100	10820	10120	9160

06712000 CHERRY CREEK NEAR FRANKTOWN, CO

LOCATION.--Lat 39°21'21", long 104°45'46", in NE¼ sec.15, T.8 S., R.66 W., Douglas County, Hydrologic Unit 10190003, on right bank 1.5 mi (2.4 km) upstream from Russellville Gulch and 2.5 mi (4.0 km) south of Franktown.

DRAINAGE AREA.--169 mi² (438 km²).

PERIOD OF RECORD.--November 1939 to current year.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 6,170 ft (1,881 m), from topographic map. See WSP 1730 for history of changes prior to Oct. 1, 1953.

REMARKS.--Records fair except those for winter period, which are poor. Many small diversions above station for irrigation of about 800 acres (3.24 km²). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--41 years (water years 1941-81), 8.54 ft³/s (0.242 m³/s), 6,190 acre-ft/yr (7.63 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,170 ft³/s (260 m³/s) Aug. 5, 1945, gage height, 4.91 ft (1.497 m), site and datum then in use, by float measurement; minimum daily, 0.20 ft³/s (0.006 m³/s) July 13, 1946, Sept. 30, Oct. 1, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 3, 1933, caused by Castlewood Dam failure, exceeded all other observed floods at this location.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 92 ft³/s (2.61 m³/s) at 1645 Mar. 30, gage height, 3.57 ft (1.088 m), no peak above base of 200 ft³/s (5.7 m³/s); maximum gage height, 4.82 ft (1.469 m) Mar. 4 (backwater from ice); minimum daily discharge, 0.30 ft³/s (0.008 m³/s) July 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	4.3	6.2	3.9	3.5	8.5	26	.60	16	1.2	.70	2.4
2	1.6	4.3	7.0	3.8	3.6	8.3	22	.60	14	1.1	.60	1.8
3	1.6	4.3	8.0	3.7	3.7	8.9	22	1.2	21	1.6	.50	1.8
4	1.6	4.4	9.6	3.7	3.8	8.3	20	1.1	17	1.3	.60	1.8
5	1.6	4.4	11	3.6	3.9	7.6	16	1.2	14	1.1	.50	1.6
6	1.7	4.4	11	3.5	4.4	7.2	14	1.3	12	.80	.60	1.6
7	1.7	4.4	11	3.5	4.2	7.0	15	1.3	9.6	.60	.60	1.6
8	1.7	4.5	9.0	3.5	4.3	7.0	13	1.6	8.3	.40	1.4	1.6
9	1.8	4.3	9.5	3.5	4.2	7.8	12	2.2	7.2	.40	2.6	1.5
10	1.9	4.4	8.0	3.5	3.4	9.2	10	2.7	6.4	.30	3.3	1.4
11	2.0	4.3	8.7	3.5	3.5	11	8.1	2.6	5.1	.30	2.4	1.3
12	2.2	4.4	8.4	3.5	3.6	13	7.5	2.9	13	.40	2.3	1.3
13	2.2	4.7	8.2	3.5	3.8	14	6.6	2.7	27	.50	2.2	1.3
14	2.3	4.7	8.0	3.5	5.0	16	5.9	3.0	15	.40	2.2	1.2
15	2.3	4.7	7.8	3.5	6.4	15	5.2	2.6	13	.40	2.2	1.2
16	2.4	4.7	7.6	3.5	8.5	17	4.9	2.9	8.1	.50	2.5	1.2
17	2.5	5.0	7.6	3.5	9.9	17	4.4	6.2	6.6	.60	3.2	1.2
18	2.7	5.2	8.0	3.5	11	16	3.9	19	5.7	1.5	2.9	1.1
19	2.7	5.2	6.7	3.5	12	16	4.1	16	3.8	.90	2.9	1.2
20	2.8	5.1	5.0	3.5	13	17	3.2	14	3.7	.80	2.6	1.2
21	2.9	5.1	4.9	3.6	10	17	2.9	11	3.3	.80	2.3	1.3
22	2.9	5.0	4.9	3.7	11	13	2.7	9.0	2.7	.80	2.2	1.6
23	3.1	4.6	4.8	3.8	9.4	24	2.6	7.3	2.4	.80	2.2	1.3
24	3.2	4.5	4.8	3.9	11	20	2.1	6.8	1.6	.70	2.1	1.4
25	3.3	4.6	4.7	3.9	10	22	1.7	6.6	2.1	1.1	2.2	1.4
26	3.4	4.7	4.6	3.9	10	22	1.4	6.7	2.0	.70	2.0	1.4
27	3.7	4.7	4.5	3.8	9.2	19	1.2	8.0	1.6	1.8	2.0	1.5
28	3.9	4.7	4.4	3.7	8.5	19	.90	8.1	1.5	.90	2.0	1.5
29	3.9	5.0	4.3	3.7	---	19	.70	8.9	1.5	.90	3.1	1.6
30	3.9	5.6	4.2	3.7	---	50	.50	20	1.3	.70	2.6	1.7
31	3.9	---	4.1	3.5	---	40	---	15	---	.60	2.1	---
TOTAL	78.9	140.2	216.5	112.4	194.8	496.8	240.50	193.10	246.5	24.90	61.60	44.0
MEAN	2.55	4.67	6.98	3.63	6.96	16.0	8.02	6.23	8.22	.80	1.99	1.47
MAX	3.9	5.6	11	3.9	13	50	26	20	27	1.8	3.3	2.4
MIN	1.5	4.3	4.1	3.5	3.4	7.0	.50	.60	1.3	.30	.50	1.1
AC-FT	156	278	429	223	386	985	477	383	489	49	122	87

CAL YR 1980 TOTAL 3933.40 MEAN 10.7 MAX 147 MIN 1.3 AC-FT 7800
WTR YR 1981 TOTAL 2050.20 MEAN 5.62 MAX 50 MIN .30 AC-FT 4070

06712990 CHERRY CREEK LAKE NEAR DENVER, CO

LOCATION.--Lat 39°09'03", long 104°51'13", in NW¼NE¼ sec.2, T.55 S., R.67 W., Arapahoe County, Hydrologic Unit 10190003, 0.8 mi (1.3 km) southwest from intersection of Interstate Highway 225 and Parker Road, 0.2 mi (1.4 km) from right end of dam, 1.6 mi (2.6 km) northwest of intersection of Parker and Airline Roads, and 11.5 mi (18.5 km) upstream from mouth.

DRAINAGE AREA.--385 mi^2 (997 km^2).

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir is formed by earthfill dam. Storage began May 15, 1957; dam completed in June 1950. Capacity, 92,820 acre-ft (114 hm^3), at elevation 5,598.00 ft (1,706.270 m), crest of spillway. No dead storage. Figures given represent total contents. Reservoir is for flood control and recreation.

COOPERATION.--Records furnished by U.S. Army, Corps of Engineers. Capacity revised on basis of new capacity table dated January 1975.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 31,120 acre-ft (38.4 hm^3) June 3, 1973, elevation, 5,565.82 ft (1,696.462 m); minimum, 9,980 acre-ft (12.3 hm^3) Nov. 23, 24, 1978, elevation, 5,545.90 ft (1,690.390 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,770 acre-ft (15.7 hm^3) June 3, elevation, 5,549.46 ft (1,691.475 m); minimum, 11,780 acre-ft (14.5 hm^3) Sept. 30, elevation, 5,548.25 ft (1,691.107 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	5,549.21	12,560	-
Oct. 31.	5,548.87	12,280	-280
Nov. 30.	5,548.83	12,250	-30
Dec. 31.	5,548.83	12,250	0
CAL YR 1980			+1,700
Jan. 31.	5,548.92	12,320	+70
Feb. 28.	5,549.01	12,400	+80
Mar. 31.	5,549.29	12,630	+230
Apr. 30.	5,549.28	12,620	-10
May 31.	5,549.44	12,760	+140
June 30.	5,549.24	12,590	-170
July 31.	5,548.95	12,350	-240
Aug. 31.	5,548.61	12,070	-280
Sept. 30.	5,548.25	11,780	-290
WTR YR 1981			-780

06712990 CHERRY CREEK LAKE NEAR DENVER, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year.

REMARKS.--Data supplied by U.S. Army, Corps of Engineers, Omaha District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
FEB						
13...	1030	.00	850	7.9	.5	10.6
13...	1031	5.00	850	8.0	1.0	10.6
13...	1032	3.30	850	8.1	1.0	10.7
13...	1033	9.80	850	8.0	2.0	10.6
13...	1034	16.4	850	8.2	2.0	10.7
13...	1035	23.0	850	8.0	2.5	10.4
JUN						
11...	1300	.00	850	7.9	21.5	7.0
11...	1301	5.00	845	8.1	21.0	7.2
11...	1302	3.30	845	8.2	20.5	7.2
11...	1303	9.80	845	8.1	20.0	6.3
11...	1304	16.4	845	8.0	19.0	4.4
11...	1305	23.0	850	7.6	16.0	1.6
JUL						
17...	0900	.00	850	8.1	22.0	6.3
17...	0901	5.00	850	8.1	22.0	6.2
17...	0902	3.30	850	8.3	22.0	6.0
17...	0903	9.80	850	8.1	22.0	6.0
17...	0904	16.4	850	8.1	22.0	5.8
17...	0905	23.0	850	8.0	22.0	3.5
AUG						
27...	0940	.00	840	7.8	20.0	6.7
27...	0941	5.00	850	8.2	20.0	6.6
27...	0942	3.30	850	8.2	20.0	6.4
27...	0943	9.80	850	8.2	20.0	6.3
27...	0944	16.4	850	8.2	20.0	6.1
27...	0945	23.0	850	8.1	20.0	5.3

06712990 CHERRY CREEK LAKE NEAR DENVER, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TUR-BID-ITY (NTU)	TRANS-PAR-ENCY (SECCHI DISK) (IN)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)
FEB												
13...	1030	--	59.0	--	--	--	--	--	--	--	--	--
13...	1031	5.0	--	244	64	20	173	37	538	5	.01	--
JUN												
11...	1300	--	40.0	--	--	--	--	--	--	--	--	--
11...	1301	7.0	--	240	62	21	176	36	560	16	.01	.000
JUL												
17...	0900	--	28.0	--	--	--	--	--	--	--	--	--
17...	0901	9.0	--	234	58	22	175	36	588	10	.02	.000
AUG												
27...	0940	--	19.0	--	--	--	--	--	--	--	--	--
27...	0941	12	--	238	55	25	167	41	532	2	.00	.000

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
FEB											
13...	--	--	--	--	--	--	--	--	--	--	--
13...	.160	--	--	.010	26	0	0	2	0	3	260
JUN											
11...	--	--	--	--	--	--	--	--	--	--	--
11...	.070	--	--	.000	--	--	--	--	--	--	--
JUL											
17...	--	--	--	--	--	--	--	--	--	--	--
17...	.050	--	--	.000	600	2	0	0	0	10	500
AUG											
27...	--	--	--	--	--	--	--	--	--	--	--
27...	.020	.88	.90	.010	--	--	--	--	--	--	--

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	THAL-LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
FEB											
13...	--	--	--	--	--	--	--	--	--	--	--
13...	0	30	.2	14	1	0	.00	21	.00	0	.00
JUN											
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	.3	--	--	--	--	--	--	--	--
JUL											
17...	--	--	--	--	--	--	--	--	--	--	--
17...	0	60	.7	0	0	0	.00	40	.00	0	.00
AUG											
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	.6	--	--	--	--	--	--	--	--

06713000 CHERRY CREEK BELOW CHERRY CREEK LAKE, CO

LOCATION.--Lat 39°39'12", long 104°51'41", in SW¼SW¼ sec.35, T.4 S., R.67 W., Arapahoe County, Hydrologic Unit 10190003, on right bank 2,000 ft (610 m) downstream from Cherry Creek Dam, 2.2 mi (3.5 km) southeast of Sullivan, 9 mi (14 km) southeast of Civic Center in Denver, and 11 mi (18 km) upstream from mouth.

DRAINAGE AREA.--385 mi² (997 km²).

PERIOD OF RECORD.--June 1950 to current year.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,490.51 ft (1,673.507 m) (Corps of Engineers bench mark).

REMARKS.--Records excellent. Flow regulated by Cherry Creek Lake (see elsewhere in this report). Diversions above station for irrigation of about 1,800 acres (7.28 km²). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--31 years, 3.69 ft³/s (0.104 m³/s), 2,670 acre-ft/yr (3.29 hm³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,440 ft³/s (40.8 m³/s) July 31, 1956, gage height, 6.07 ft (1.850 m); no flow most of time since May 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood known, 34,000 ft³/s (963 m³/s) Aug. 3, 1933, by slope-area measurement near present site (Castlewood Dam failure).

EXTREMES FOR CURRENT YEAR.--No flow entire year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

CAL YR 1980	TOTAL 2.09	MEAN 0.006	MAX 1.4	MIN 0.00	AC-FT 4.1
WTR YR 1981	TOTAL 0.00	MEAN 0.000	MAX 0.00	MIN 0.00	AC-FT 0.00

06713500 CHERRY CREEK AT DENVER, CO

LOCATION.--Lat 39°44'58", long 105°00'08", in NE¼ sec.33, T.3 S., R.68 W., Denver County, Hydrologic Unit 10190003, on right bank on downstream side of Wazee Street Bridge in Denver, 0.5 mi (0.8 km) upstream from mouth.

DRAINAGE AREA.--409 mi² (1,059 km²).

PERIOD OF RECORD.--August 1942 to September 1969, February 1980 to current year.

REVISED RECORDS.--WSP 1710: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,175.48 ft (1,577.486 m) National Geodetic Vertical Datum of 1929. See WSP 1730 for history of changes prior to July 16, 1951. July 16, 1951, to Sept. 30, 1969, water-stage recorder at present site and datum.

REMARKS.--Records good. Several diversions above station for irrigation of about 1,900 acres (769 hm²). Floodflow regulated by Cherry Creek Reservoir 11 mi (18 km) upstream (capacity, 95,960 acre-ft (118 hm³).

AVERAGE DISCHARGE.--28 years (water years 1943-69, 1981), 16.0 ft³/s (0.453 m³/s), 11,590 acre-ft/yr (14.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 3,120 ft³/s (88.4 m³/s) Aug. 5, 1945, gage height, 5.25 ft (1.600 m) site and datum then in use; maximum gage height, 11.91 ft (3.630 m) June 17, 1965 (backwater from South Platte River); minimum daily discharge, 0.4 ft³/s (0.011 m³/s) June 16-18, 1948.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 26, 1885, reached a discharge of 20,000 ft³/s (566 m³/s) by float measurement. Flood of May 19, 20, 1864, reached a somewhat higher stage. Flood of Aug. 3, 1933, reached a discharge of about 15,000 ft³/s (425 m³/s) as determined by rise of South Platte River at Denver.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 670 ft³/s (19.0 m³/s) at 1400 Apr. 20, gage height, 3.52 ft (1.073 m); minimum daily, 5.1 ft³/s (0.14 m³/s) Apr. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	8.9	8.9	8.9	9.6	12	8.2	7.8	13	10	9.6	12
2	11	8.9	11	8.9	11	12	8.2	7.8	13	9.6	11	10
3	10	8.9	11	8.9	9.6	21	35	71	34	10	14	11
4	12	8.9	7.8	8.9	8.9	32	14	46	9.6	10	12	10
5	12	8.2	7.8	8.9	8.9	28	8.2	22	12	10	12	12
6	12	8.2	7.8	8.9	10	20	7.8	23	10	12	12	13
7	12	8.9	8.9	8.2	10	21	8.2	19	12	18	11	23
8	14	8.9	10	8.2	10	13	14	18	7.3	19	8.9	12
9	15	8.9	8.9	8.2	11	12	7.8	20	8.9	8.9	17	8.9
10	16	8.9	8.9	7.8	11	11	8.2	20	8.9	9.6	21	10
11	17	9.6	9.6	7.8	12	9.6	7.3	17	7.8	8.9	12	9.6
12	17	9.6	9.6	8.2	16	8.9	7.3	33	24	28	14	11
13	17	16	9.6	7.8	12	8.9	7.8	36	12	31	12	13
14	16	7.8	9.6	7.8	12	9.6	7.8	16	14	11	15	14
15	14	8.2	9.6	8.2	12	11	7.3	16	12	33	14	14
16	11	7.3	8.2	8.2	12	8.9	7.8	32	11	10	16	8.9
17	13	6.9	9.6	8.9	12	9.6	6.0	88	10	8.9	15	8.9
18	16	6.9	8.9	8.2	13	22	5.6	44	10	10	12	11
19	15	6.9	8.9	8.2	13	8.9	10	11	10	12	11	10
20	15	6.9	8.2	8.2	18	18	28	8.9	11	7.8	10	10
21	15	7.8	8.9	8.9	21	38	5.1	8.2	14	7.8	12	14
22	11	8.2	8.9	8.9	12	22	6.0	9.6	12	8.9	12	10
23	14	13	8.9	8.9	12	13	6.4	8.2	10	7.8	14	9.6
24	14	12	8.9	8.9	12	16	6.9	9.6	9.6	8.2	14	14
25	14	12	8.2	8.9	11	13	8.9	9.6	11	10	11	7.8
26	14	8.9	7.8	9.6	10	12	10	9.6	9.6	43	12	6.9
27	18	8.2	7.8	9.6	12	14	8.2	13	10	36	12	7.8
28	12	9.6	7.8	9.6	12	55	7.8	66	12	14	14	10
29	9.6	8.2	8.9	9.6	---	55	7.8	142	7.8	13	17	11
30	9.6	7.8	8.2	9.6	---	20	7.8	22	12	9.6	13	10
31	8.9	---	8.9	9.6	---	11	---	14	---	11	12	---
TOTAL	415.1	269.4	276.0	269.4	334.0	566.4	289.4	868.3	358.5	447.0	402.5	333.4
MEAN	13.4	8.98	8.90	8.69	11.9	18.3	9.65	28.0	12.0	14.4	13.0	11.1
MAX	18	16	11	9.6	21	55	35	142	34	43	21	23
MIN	8.9	6.9	7.8	7.8	8.9	8.9	5.1	7.8	7.3	7.8	8.9	6.9
AC-FT	823	534	547	534	662	1120	574	1720	711	887	798	661

WTR YR 1981 TOTAL 4829.4 MEAN 13.2 MAX 142 MIN 5.1 AC-FT 9580

06714000 SOUTH PLATTE RIVER AT DENVER, CO

LOCATION.--Lat 39°45'35", long 105°00'10", in NW¼SE¼ sec.28, T.3 S., R.68 W., Denver County, Hydrologic Unit 10190003, on right bank 90 ft (27 m) upstream from Nineteenth Street Bridge in Denver and 0.4 mi (0.6 km) downstream from Cherry Creek.

DRAINAGE AREA.--3,804 mi² (9,852 km²).

PERIOD OF RECORD.--May to October 1889, June to October 1890, July 1895 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1934(M). WSP 1730: 1957(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,157.64 ft (1,572.049 m) National Geodetic Vertical Datum, adjustment of 1960. Prior to Aug. 12, 1909, nonrecording gages, and Aug. 12, 1909, to Aug. 28, 1931, water-stage recorder, at several sites within 0.5 mi (0.8 km) of present site at various datums. Aug. 29, 1931, to June 28, 1965, water-stage recorder at site 70 ft (21 m) downstream at datum 3.66 ft (1.116 m) higher. June 29, 1965, to Mar. 18, 1966, water-stage recorder at site 70 ft (21 m) downstream at present datum.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 79,000 acres (320 km²) and municipal use, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--79 years (water years 1896-1974), 344 ft³/s (9.742 m³/s), 249,200 acre-ft/yr (308 hm³/yr), prior to completion of Chatfield Dam, 6 years (water years 1976-81), 322 ft³/s (9.119 m³/s), 233,300 acre-ft/yr (288 hm³/yr), subsequent to colpletion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,300 ft³/s (1,140 m³/s) June 17, 1965, gage height, 18.66 ft (5.688 m), from flood marks, present datum, from rating curve extended above 2,700 ft³/s (76 m³/s), on basis of contracted-opening measurement of peak flow; minimum daily, 8.8 ft³/s (0.25 m³/s) Mar. 25, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,740 ft³/s (49.3 m³/s) at 1630 May 28, gage height, 4.58 ft (1.396 m); minimum daily, 66 ft³/s (1.87 m³/s) Jan. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	174	113	95	115	80	87	118	263	96	183	115
2	98	346	113	97	123	86	93	109	275	94	181	99
3	93	351	107	95	111	132	250	387	581	108	178	123
4	96	161	101	94	109	295	153	221	355	120	174	253
5	92	128	79	96	131	287	111	150	363	106	143	190
6	93	128	85	93	128	207	104	265	286	99	131	179
7	86	125	93	88	129	224	115	211	191	174	92	191
8	85	125	102	87	129	148	157	124	172	190	95	140
9	81	123	94	82	130	135	115	168	120	148	168	125
10	92	122	96	66	108	127	156	119	108	135	232	124
11	89	115	92	71	133	123	163	117	110	104	131	209
12	93	122	89	75	174	125	213	226	198	166	140	238
13	89	168	101	75	145	123	180	320	114	257	163	243
14	91	149	93	81	142	120	240	146	110	147	142	247
15	92	131	93	83	141	115	160	138	106	226	144	251
16	88	118	95	84	146	108	145	227	95	237	229	227
17	93	103	97	79	140	100	140	598	90	224	249	123
18	92	89	95	83	118	203	265	399	138	266	229	116
19	88	86	103	84	136	116	321	285	145	250	213	108
20	90	111	111	103	140	144	403	214	138	207	209	103
21	97	118	115	111	213	276	293	158	90	210	221	111
22	106	118	110	126	156	155	172	153	89	252	255	122
23	106	158	111	137	137	111	167	142	76	252	274	123
24	111	158	111	160	110	125	189	143	76	225	265	135
25	118	164	100	161	89	120	159	138	81	173	264	130
26	119	134	110	156	77	100	155	137	79	304	226	161
27	150	124	113	125	81	100	145	152	82	411	116	159
28	291	132	114	110	84	363	148	425	90	301	109	156
29	358	120	114	104	---	382	195	626	106	259	116	101
30	315	111	116	104	---	217	177	401	182	187	115	96
31	151	---	104	113	---	119	---	509	---	182	107	---
TOTAL	3738	4312	3170	3118	3575	5066	5371	7526	4909	6110	5494	4698
MEAN	121	144	102	101	128	163	179	243	164	197	177	157
MAX	358	351	116	161	213	382	403	626	581	411	274	253
MIN	81	86	79	66	77	80	87	109	76	94	92	96
AC-FT	7410	8550	6290	6180	7090	10050	10650	14930	9740	12120	10900	9320

CAL YR 1980 TOTAL 238148 MEAN 651 MAX 3970 MIN 79 AC-FT 472400
WTR YR 1981 TOTAL 57087 MEAN 156 MAX 626 MIN 66 AC-FT 113200

06714130 SOUTH PLATTE RIVER AT 50th AVENUE AT DENVER, CO

LOCATION.--Lat 39°47'13", long 104°58'28", in SW¼ SW¼ sec.14, T.3 S., R.68 W., Denver County, Hydrologic Unit 10190003, on left bank 500 ft (152 m) upstream from Franklin Street Bridge and 2,800 ft (853 m) downstream from Interstate 70 overpass in Denver.

DRAINAGE AREA.--3,810 mi² (9,870 km²), approximate.

PERIOD OF RECORD.--February 1980 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,133 ft (1,565 m) from topographic map.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 79,000 acres (320 km²) and municipal use, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,700 ft³/s (133 m³/s) July 16, 1980, gage height, 8.50 ft (2.591 m); minimum daily, 42 ft³/s (1.19 m³/s) June 17, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,580 ft³/s (44.7 m³/s) at 2145 July 26, gage height, 5.16 ft (1.573 m); minimum daily, 42 ft³/s (1.19 m³/s) June 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	192	126	122	144	69	95	156	277	115	230	162
2	113	367	124	126	156	75	101	139	264	110	230	141
3	104	374	117	120	144	144	282	439	638	126	230	156
4	108	187	108	115	134	369	173	323	359	134	227	277
5	104	124	80	122	162	325	122	195	337	124	204	224
6	106	146	82	115	167	242	108	288	261	120	190	218
7	101	139	95	101	164	255	122	252	148	154	154	230
8	97	136	117	97	156	167	167	156	129	211	154	184
9	90	134	93	97	170	144	126	206	84	154	203	170
10	106	139	104	82	126	131	167	164	73	148	314	164
11	101	126	101	86	190	122	176	134	76	117	192	245
12	106	134	99	95	215	122	215	288	136	153	170	248
13	104	198	108	93	181	120	192	447	70	284	195	248
14	104	167	101	97	167	115	233	192	63	159	176	252
15	110	139	99	104	170	113	170	170	56	222	154	258
16	104	122	108	104	173	110	154	308	49	224	248	242
17	108	108	108	97	167	90	146	744	42	215	271	139
18	115	84	104	101	129	230	245	486	144	261	255	117
19	108	78	120	104	156	110	315	315	148	206	245	110
20	113	110	131	124	162	131	430	233	148	204	242	99
21	120	126	139	136	248	305	284	167	104	204	255	108
22	139	124	134	154	181	178	167	159	99	233	281	131
23	139	181	136	176	156	113	154	148	86	233	294	136
24	148	173	139	209	115	122	201	154	84	212	291	151
25	151	184	120	212	84	126	164	148	93	170	291	134
26	154	154	134	215	67	90	164	144	95	324	264	176
27	195	136	141	173	69	86	164	156	97	559	164	181
28	330	154	141	146	71	496	195	540	104	330	148	181
29	418	134	141	134	---	461	230	696	113	301	154	106
30	359	122	148	124	---	227	224	390	191	239	162	97
31	178	---	134	144	---	129	---	542	---	233	151	---
TOTAL	4453	4692	3632	3925	4224	5517	5686	8879	4568	6479	6739	5285
MEAN	144	156	117	127	151	178	190	286	152	209	217	176
MAX	418	374	148	215	248	496	430	744	638	559	314	277
MIN	90	78	80	82	67	69	95	134	42	110	148	97
AC-FT	8830	9310	7200	7790	8380	10940	11280	17610	9060	12850	13370	10480

WTR YR 1981 TOTAL 64079 MEAN 176 MAX 744 MIN 42 AC-FT 127100

06716500 CLEAR CREEK NEAR LAWSON, CO

LOCATION.--Lat 39°45'57", long 105°37'32", in NW¼NW¼ sec.25, T.3 S., R.74 W., Clear Creek County, Hydrologic Unit 10190004, on left bank at east edge of Lawson, 30 ft (9 m) downstream from private bridge, and 2.0 mi (3.2 km) downstream from West Fork Clear Creek.

DRAINAGE AREA.--147 mi² (381 km²).

PERIOD OF RECORD.--March 1946 to current year. Records prior to 1959 include inflow from August P. Gumlick Tunnel (formerly Jones Pass tunnel).

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 8,080 ft (2,463 m), from topographic map. Mar. 29, 1946, to Sept. 30, 1967, at site 1.5 mi (2.4 km) upstream at different datum.

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected by minor transmountain diversion from Colorado River basin through Berthoud Pass ditch (see elsewhere in this report). No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--35 years, 134 ft³/s (3.795 m³/s), 97,080 acre-ft/yr (120 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,130 ft³/s (174 m³/s) June 4, 1956, gage height, 7.41 ft (2.259 m), site and datum then in use, from rating curve extended above 1,600 ft³/s (45 m³/s), on basis of computation of peak flow over dam, caused by failure of Georgetown Dam on White Reservoir 5.0 mi (8.0 km) upstream; minimum daily, 13 ft³/s (0.37 m³/s) Feb. 20, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 622 ft³/s (17.6 m³/s) at 2300 June 9, gage height, 4.88 ft (1.487 m), only peak above base of 600 ft³/s (17 m³/s); minimum daily, 17 ft³/s (0.48 m³/s) Feb. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	48	34	28	22	21	27	91	208	192	97	78
2	57	48	34	28	22	21	28	105	232	210	95	69
3	58	44	31	27	23	21	30	122	275	241	91	71
4	57	43	30	26	22	21	27	107	282	205	88	68
5	57	41	29	26	22	21	26	96	316	191	82	64
6	54	42	28	25	23	24	27	95	375	174	80	70
7	53	45	29	25	24	26	28	81	432	172	77	68
8	52	41	29	23	24	25	30	74	468	222	76	64
9	51	39	30	26	21	25	28	72	512	250	78	68
10	50	42	31	24	17	26	31	66	514	264	81	76
11	56	44	31	24	20	27	33	69	495	228	86	86
12	55	46	30	27	25	27	33	62	467	248	86	74
13	52	45	31	24	27	27	34	60	414	225	99	77
14	53	40	30	24	27	27	33	59	364	206	88	72
15	59	35	30	26	23	26	37	61	305	193	92	69
16	55	38	30	22	23	27	39	60	272	200	98	65
17	54	35	30	24	23	27	38	60	253	192	92	61
18	53	40	29	23	22	26	45	58	245	189	84	60
19	54	41	28	23	22	26	49	54	227	170	78	60
20	54	37	28	23	22	27	46	56	236	156	80	60
21	53	35	27	22	22	27	44	61	243	144	82	59
22	52	34	27	21	22	26	42	50	239	131	85	58
23	48	34	26	21	22	27	37	53	225	123	84	57
24	43	33	26	21	22	27	45	59	215	120	74	55
25	48	31	27	22	21	29	56	64	211	122	74	55
26	49	31	27	22	21	29	64	79	214	119	72	56
27	51	28	27	22	20	29	72	94	228	120	75	54
28	45	33	28	23	21	28	68	121	228	110	72	54
29	46	30	28	22	---	27	80	175	206	103	68	53
30	50	31	29	22	---	27	85	148	205	99	69	49
31	48	---	30	22	---	27	---	192	---	100	66	---
TOTAL	1625	1154	904	738	625	801	1262	2604	9106	5419	2549	1930
MEAN	52.4	38.5	29.2	23.8	22.3	25.8	42.1	84.0	304	175	82.2	64.3
MAX	59	48	34	28	27	29	85	192	514	264	99	86
MIN	43	28	26	21	17	21	26	50	205	99	66	49
AC-FT	3220	2290	1790	1460	1240	1590	2500	5170	18060	10750	5060	3830

CAL YR 1980 TOTAL 56295 MEAN 154 MAX 1090 MIN 23 AC-FT 111700
WTR YR 1981 TOTAL 28717 MEAN 78.7 MAX 514 MIN 17 AC-FT 56960

06719505 CLEAR CREEK AT GOLDEN, CO

LOCATION.--Lat 39°45'11", long 105°14'05", in NE¼NW¼ sec.33, T.3 S., R.70 W., Jefferson County, Hydrologic Unit 10190004, on left bank 100 ft (30 m) downstream from U.S. Highway 6 bridge at west edge of Golden, 0.7 mi (1.1 km) downstream from headgate of Church ditch, and 13.3 mi (21.4 km) downstream from North Clear Creek.

DRAINAGE AREA.--400 mi^2 (1,036 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year. Records for station at site 0.8 mi (1.3 km) upstream (October 1908 to December 1919, June 1911 to September 1974) are not equivalent due to diversions by Church ditch.

GAGE.--Water-stage recorder. Altitude of gage is 5,695 ft (1,736 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by minor transmountain diversions from Colorado River basin through Berthoud Pass ditch (see elsewhere in this report) and several small reservoirs above station. Diversion by Welch ditch 1.4 mi (2.3 km) upstream and by Church Ditch 0.7 mi (1.1 km) upstream for irrigation of about 5,200 acres (21.0 km^2) below station.

AVERAGE DISCHARGE.--7 years, 168 ft^3/s (4.758 m^3/s) 121,700 acre-ft/yr (150 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,860 ft^3/s (52.7 m^3/s) June 13, 1980, gage height, 5.10 ft (1.411 m); minimum daily, 19 ft^3/s (0.54 m^3/s) Mar. 20, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 868 ft^3/s (24.6 m^3/s) at 0400 June 10, gage height, 4.06 ft (1.237 m); minimum daily, 26 ft^3/s (0.74 m^3/s) Feb. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	71	53	43	37	31	29	114	322	223	137	97
2	82	70	56	41	37	30	33	124	363	234	133	92
3	81	68	55	40	26	30	34	147	460	316	134	93
4	81	64	52	39	41	35	32	139	476	261	127	97
5	78	64	50	36	52	29	26	123	508	240	123	90
6	78	62	49	38	52	35	31	130	558	209	116	94
7	76	63	47	32	43	57	32	110	645	195	114	101
8	75	63	49	37	37	62	34	96	667	236	108	103
9	74	60	43	37	35	56	33	94	708	292	109	99
10	73	61	41	40	44	33	35	88	754	321	120	109
11	78	62	58	36	45	32	40	89	744	272	120	110
12	82	62	51	30	28	31	43	82	703	289	113	105
13	78	63	49	32	43	33	44	84	598	274	131	100
14	78	59	49	32	55	32	45	78	527	248	118	94
15	83	55	54	33	50	32	49	80	396	222	112	92
16	84	53	51	40	48	32	53	88	359	221	124	92
17	80	50	49	44	46	30	50	87	324	218	122	85
18	81	42	47	43	40	29	56	90	294	210	112	82
19	79	64	43	49	38	27	66	78	267	185	100	79
20	81	62	43	48	39	28	77	84	286	169	97	79
21	81	63	45	49	36	30	64	96	300	163	102	79
22	77	65	45	41	40	28	62	96	304	162	107	81
23	73	66	41	51	35	30	58	94	292	164	104	76
24	66	61	42	45	37	29	64	104	286	162	93	76
25	69	55	58	39	34	29	81	114	284	167	99	78
26	72	59	45	40	32	32	94	133	278	163	95	75
27	75	58	42	30	31	33	108	167	296	162	100	68
28	69	63	42	35	29	34	110	188	314	147	97	71
29	66	64	41	48	---	32	117	282	257	144	93	63
30	76	57	41	42	---	32	120	252	258	141	90	64
31	74	---	44	42	---	28	---	289	---	140	87	---
TOTAL	2386	1829	1475	1232	1110	1041	1720	3820	12828	6550	3437	2624
MEAN	77.0	61.0	47.6	39.7	39.6	33.6	57.3	123	428	211	111	87.5
MAX	86	71	58	51	55	62	120	289	754	321	137	110
MIN	66	42	41	30	26	27	26	78	257	140	87	63
AC-FT	4730	3630	2930	2440	2200	2060	3410	7580	25440	12990	6820	5200

CAL YR 1980 TOTAL 94985 MEAN 260 MAX 1670 MIN 34 AC-FT 188400
WTR YR 1981 TOTAL 40052 MEAN 110 MAX 754 MIN 26 AC-FT 79440

06719505 CLEAR CREEK AT GOLDEN, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March to September 1981.

PERIOD OF DAILY RECORDS.--
SPECIFIC CONDUCTANCE: March to September 1981
WATER TEMPERATURES: March to September 1981
pH: March to September 1981 (discontinued)
DISSOLVED OXYGEN: March to September 1981 (discontinued)
SUSPENDED-SEDIMENT DISCHARGE: April to September 1981 (discontinued).

INSTRUMENTATION.--Water Quality monitor since March 1981.

REMARKS.--Records rated fair.

EXTREMES FOR THE CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 385 micromhos Apr. 6; minimum, 71 micromhos June 11.
WATER TEMPERATURES: Maximum 23.0°C Aug. 4; minimum, 0.5°C Mar. 31, Apr. 5.
pH: Maximum, 8.7 units Mar. 27, Apr. 10; minimum 6.6 units July.
DISSOLVED OXYGEN: Maximum, 14.2 mg/L May 7; minimum 5.2 mg/L July 16.
SEDIMENT CONCENTRATIONS: Maximum daily, 282 mg/L May 29; minimum daily, 3 mg/L Sept. 21-24.
SEDIMENT LOADS: Maximum daily, 230 tons (209 t) June 3; minimum daily 0.62 ton (0.56 t) Spet. 23.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN DIS-SOLVED (MG/L AS N)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
APR 23...	1500	58	320	311	7.8	13.0	8.2	.60	110	30
JUL 29...	1440	150	155	153	7.4	18.0	7.4	.49	53	15

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
APR 23...	7.9	19	.8	3.4	61	73	9.1	.8	11	193
JUL 29...	3.7	7.2	.5	1.7	29	31	2.9	.4	7.7	88

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)
APR 23...	.26	30.2	.20	.21	.72	.33	.39	.92	.070	.020
JUL 29...	.12	35.6	.15	.16	.50	.17	.33	.65	.020	<.010

06719505 CLEAR CREEK AT GOLDEN, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
APR 23...	0	0	0	<1	1	0	41	13	50
JUL 29...	0	0	1	<1	3	0	23	10	65

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR 23...	4	0	740	.1	.0	0	0	370	40
JUL 29...	6	1	320	.0	.0	0	0	230	95

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR 29...	1300	1.2	58	--
JUN 10...	1400	7.0	63	37
JUL 29...	1515	1.5	13	--
SEP 09...	1500	97	77	--

06719505 CLEAR CREEK AT GOLDEN, CO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	348	240	126	103	126	155
2						---	349	234	117	103	128	152
3						---	342	220	106	99	132	152
4						---	338	209	101	101	132	153
5						---	340	210	102	105	134	151
6						---	349	213	99	106	136	154
7						---	348	216	92	110	135	149
8						---	340	222	86	109	135	149
9						---	336	221	85	103	136	149
10						---	338	233	77	104	140	146
11						---	324	236	75	104	137	146
12						---	318	233	77	102	145	148
13						---	318	237	79	103	144	154
14						---	318	243	81	105	148	156
15						---	315	245	85	106	151	157
16						---	311	237	90	111	148	157
17						---	311	240	93	107	152	159
18						---	305	242	96	109	152	161
19						---	292	247	98	112	154	163
20						---	286	249	99	113	156	164
21						---	291	251	96	115	155	165
22						---	293	250	96	118	152	164
23						---	295	255	97	120	153	164
24						---	274	254	99	119	155	165
25						340	283	251	100	118	150	164
26						341	269	246	99	118	148	164
27						340	264	216	98	120	150	163
28						332	260	188	101	120	152	165
29						338	255	162	101	123	154	164
30						343	243	146	100	125	156	164
31						352	---	132	---	125	157	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1												---
2												---
3												---
4												---
5												---
6												---
7												---
8												---
9												---
10												---
11												---
12												---
13												---
14												---
15												---
16												---
17												---
18												---
19												---
20												---
21												---
22												---
23												---
24												---
25												1.0
26												3.5
27												5.0
28												2.0
29												1.0
30												2.5
31												.5

06719505 CLEAR CREEK AT GOLDEN, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1		1.0		10.0		10.0		14.0		16.0		13.0
2		4.0		12.0		11.0		14.5		15.0		14.0
3		3.5		12.0		11.0		14.0		16.0		15.0
4		2.0		9.0		10.0		14.0		17.0		14.0
5		.5		10.0		10.5		15.5		15.5		14.0
6		3.5		8.0		10.5		15.0		16.5		14.5
7		5.0		9.0		11.5		17.5		17.0		13.5
8		6.0		7.0		10.5		17.5		15.0		12.5
9		4.5		5.0		10.5		15.5		14.0		13.5
10		6.5		4.0		11.5		15.5		13.5		12.5
11		7.0		8.0		12.0		15.5		13.0		13.5
12		7.0		7.5		12.0		18.0		14.5		13.0
13		8.0		8.5		12.5		18.5		14.0		12.5
14		7.5		8.5		10.5		21.0		14.0		12.5
15		8.5		10.5		8.0		17.5		15.0		13.0
16		7.5		3.5		11.0		15.5		14.0		11.0
17		7.0		8.5		11.5		14.5		13.5		10.5
18		9.0		7.0		13.0		14.5		14.5		11.0
19		9.5		6.5		13.5		14.5		14.5		11.5
20		9.0		9.0		13.5		15.0		15.0		13.0
21		7.5		10.0		14.0		15.0		15.0		11.5
22		8.0		10.0		14.0		15.5		15.5		11.5
23		6.0		10.0		14.5		15.0		14.0		13.0
24		8.5		10.0		14.5		14.0		15.0		11.5
25		10.0		11.0		14.0		14.0		14.0		11.0
26		10.0		12.0		14.0		14.5		14.5		9.5
27		10.5		13.0		13.5		14.5		15.5		10.5
28		10.5		13.0		13.5		14.5		14.5		11.0
29		11.0		11.0		14.5		15.0		14.5		10.5
30		10.5		9.0		14.5		16.5		15.0		9.5
31				12.0				15.0		14.5		

PH (STANDARD UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1											---	---
2											---	---
3											---	---
4											---	---
5											---	---
6											---	---
7											---	---
8											---	---
9											---	---
10											---	---
11											---	---
12											---	---
13											---	---
14											---	---
15											---	---
16											---	---
17											---	---
18											---	---
19											---	---
20											---	---
21											---	---
22											---	---
23											---	---
24											---	---
25											8.6	8.0
26											8.6	8.0
27											8.7	8.0
28											8.4	7.9
29											8.6	8.0
30											8.6	8.0
31											8.5	8.0

06719505 CLEAR CREEK AT GOLDEN, CO--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.5	8.0	8.2	7.9	7.3	7.1	7.4	7.4	7.4	7.3	7.2	7.1
2	8.6	7.9	8.0	7.8	7.5	7.2	7.4	7.1	7.4	7.3	7.2	7.1
3	8.3	7.9	7.8	7.3	7.4	6.9	7.0	6.8	7.3	7.3	7.1	7.1
4	8.5	7.9	7.3	7.2	8.3	6.9	6.8	6.7	7.6	7.2	7.4	7.0
5	8.5	8.0	7.2	7.1	7.5	7.3	7.4	6.9	7.6	7.4	7.4	7.3
6	8.6	7.9	7.1	7.0	7.4	7.3	7.3	6.8	7.6	7.4	7.3	7.2
7	8.6	7.9	7.8	7.0	7.3	7.3	6.9	6.7	7.5	7.3	7.3	7.2
8	8.6	7.9	7.9	7.7	7.3	7.3	7.2	6.8	7.5	7.3	7.2	7.2
9	8.6	7.9	7.8	7.7	7.4	---	7.2	6.8	7.3	7.1	7.3	7.1
10	8.7	7.9	7.9	7.7	7.4	7.3	7.3	7.2	7.1	7.0	7.3	7.3
11	8.5	7.9	8.0	7.8	7.4	7.2	7.3	7.0	7.1	6.9	7.3	7.3
12	8.5	7.9	8.0	7.7	7.3	7.2	7.0	6.8	7.0	6.9	7.3	7.2
13	8.5	7.9	8.1	7.7	7.2	7.1	6.9	6.7	7.0	6.9	7.3	7.2
14	8.5	7.9	8.3	7.8	7.1	7.0	7.0	6.8	7.1	6.9	7.3	7.2
15	8.4	7.9	8.2	7.8	7.4	7.0	7.0	6.8	7.1	7.0	7.8	7.2
16	8.4	7.9	7.9	7.5	7.5	7.3	6.9	6.6	7.1	7.0	7.9	7.6
17	8.4	7.9	7.8	7.6	7.5	7.3	7.3	7.0	6.9	6.9	7.9	7.6
18	8.4	7.9	7.9	7.6	7.5	7.3	7.5	7.1	6.9	6.8	7.9	7.6
19	8.2	7.8	8.1	7.8	7.4	7.3	7.6	7.5	7.5	6.8	7.9	7.6
20	8.0	7.8	8.1	7.7	7.5	7.3	7.5	7.4	7.4	7.2	7.9	7.6
21	8.2	7.9	8.2	7.7	7.5	7.3	7.5	7.4	7.4	7.2	7.8	7.5
22	8.2	7.9	8.1	7.7	7.4	7.3	7.4	7.3	7.3	7.2	7.8	7.5
23	8.3	7.9	8.0	7.6	7.4	7.3	7.4	7.3	7.3	7.1	7.8	7.5
24	8.3	7.9	7.9	7.6	7.3	7.2	7.3	7.2	7.5	7.1	7.7	7.4
25	8.3	7.9	7.7	7.5	7.3	7.1	7.2	7.2	7.5	7.3	7.7	7.4
26	8.2	7.9	7.6	7.3	7.2	7.1	7.2	7.0	7.4	7.3	7.7	7.4
27	8.2	7.9	7.3	7.1	7.2	7.1	7.4	7.0	7.4	7.2	7.7	7.5
28	8.3	7.9	7.9	7.2	7.1	7.0	7.4	7.3	7.4	7.2	8.5	7.6
29	8.1	7.8	7.4	7.1	7.0	7.0	7.4	7.3	7.3	7.2	8.0	7.6
30	8.2	7.9	7.1	7.0	7.5	7.0	7.5	7.4	7.3	7.1	7.6	6.8
31	---	---	7.2	7.0	---	---	7.4	7.3	7.3	7.2	---	---

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMHER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1											---	---
2											---	---
3											---	---
4											---	---
5											---	---
6											---	---
7											---	---
8											---	---
9											---	---
10											---	---
11											---	---
12											---	---
13											---	---
14											---	---
15											---	---
16											---	---
17											---	---
18											---	---
19											---	---
20											---	---
21											---	---
22											---	---
23											---	---
24											---	---
25											13.4	8.9
26											12.5	8.5
27											11.4	7.9
28											13.4	10.7
29											13.4	9.1
30											13.3	10.2
31											13.4	11.4

06719505 CLEAR CREEK AT GOLDEN, CO--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.4	9.7	8.2	5.1	11.6	11.1	---	---	7.6	7.1	---	---
2	13.4	8.8	---	---	11.2	10.6	11.4	---	7.8	6.8	---	---
3	13.4	11.6	---	---	10.6	10.3	12.5	10.2	7.5	6.7	---	---
4	13.4	12.1	---	---	11.1	10.1	10.9	10.1	7.3	6.7	7.5	---
5	13.4	10.1	---	---	11.0	10.5	---	---	7.7	6.6	7.6	6.6
6	13.4	9.1	---	---	11.0	10.1	13.7	---	7.4	6.8	7.3	6.7
7	13.3	9.1	14.2	11.8	10.9	10.1	13.5	10.0	7.3	6.7	7.3	6.9
8	12.9	10.0	12.9	12.0	11.2	10.0	14.0	---	7.6	6.6	7.3	6.3
9	13.3	8.5	13.9	---	11.3	10.1	13.6	---	7.6	6.9	6.9	6.3
10	12.5	8.2	---	---	12.4	10.0	---	---	7.7	7.3	7.2	6.4
11	12.1	8.8	---	---	11.0	8.2	14.0	11.4	7.6	6.8	6.9	6.1
12	12.4	8.8	---	---	---	---	13.7	10.6	7.5	6.9	7.0	6.1
13	11.7	8.2	---	---	---	---	12.8	10.0	7.5	6.8	---	---
14	12.4	8.2	8.1	---	---	---	10.0	10.0	7.5	6.8	---	---
15	11.4	8.9	8.2	6.6	8.8	---	13.5	10.0	7.4	6.7	8.3	6.0
16	12.0	8.5	9.3	8.1	9.4	7.7	11.8	5.2	7.6	6.7	8.7	7.6
17	11.8	7.7	10.6	9.6	9.1	7.0	---	---	7.4	6.4	8.8	7.7
18	9.9	7.0	10.9	5.6	8.5	7.2	8.7	10.0	7.0	5.9	8.7	7.7
19	8.7	7.2	10.8	8.4	8.3	6.7	7.9	6.8	6.9	6.0	8.6	7.5
20	8.4	6.9	10.3	7.5	8.2	7.3	7.7	7.0	6.8	5.9	8.4	7.5
21	8.4	5.9	9.9	6.9	8.0	7.4	7.7	6.9	---	---	8.6	7.6
22	7.7	6.1	9.8	7.9	8.1	7.0	7.6	6.8	---	---	8.6	7.6
23	8.2	---	10.1	5.9	7.9	7.0	7.5	6.7	---	---	8.3	7.4
24	---	---	10.3	7.0	7.8	7.2	7.5	7.0	7.2	5.3	8.4	7.5
25	---	---	9.9	6.9	7.6	7.2	7.2	6.1	7.7	6.7	8.7	7.7
26	---	---	9.3	7.1	7.7	6.9	7.0	5.8	7.6	6.7	8.9	7.7
27	---	---	8.5	6.0	7.6	7.1	7.8	5.9	7.2	6.3	8.6	7.4
28	8.4	5.9	---	---	---	---	7.8	7.3	7.1	6.0	8.5	7.6
29	9.5	7.9	---	---	---	---	---	---	6.7	5.9	8.9	8.0
30	10.0	5.9	---	---	---	---	---	---	---	---	9.0	7.8
31	---	---	11.9	11.4	---	---	7.8	7.2	---	---	---	---

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	29	---	---	114	81	25	322	100	87
2	33	---	---	124	78	26	363	90	88
3	34	---	---	147	88	35	460	185	230
4	32	---	---	139	86	32	476	170	218
5	26	---	---	123	66	22	508	116	159
6	31	---	---	130	86	30	558	103	155
7	32	18	1.6	110	74	22	645	110	192
8	34	21	1.9	96	60	16	667	93	167
9	33	20	1.8	94	45	11	708	74	141
10	35	20	1.9	88	40	9.5	754	65	132
11	40	28	3.0	89	46	11	744	71	143
12	43	33	3.8	82	38	8.4	703	67	127
13	44	33	3.9	84	45	10	598	52	84
14	45	32	3.9	78	36	7.6	527	45	64
15	49	27	3.6	80	30	6.5	396	34	36
16	53	28	4.0	88	48	11	359	27	26
17	50	22	3.0	87	57	13	324	22	19
18	56	24	3.6	90	54	13	294	22	17
19	66	22	3.9	78	39	8.2	267	14	10
20	77	48	10	84	36	8.2	286	18	14
21	64	45	7.8	96	36	9.3	300	15	12
22	62	50	8.4	96	44	11	304	28	23
23	58	54	8.5	94	39	9.9	292	26	20
24	64	32	5.5	104	36	10	286	25	19
25	81	42	9.2	114	38	12	284	25	19
26	94	70	18	133	44	16	278	27	20
27	108	72	21	167	65	29	296	32	26
28	110	54	16	188	119	60	314	37	31
29	117	75	24	282	282	228	257	34	24
30	120	80	26	252	104	71	258	29	20
31	---	---	---	289	88	69	---	---	---

06719505 CLEAR CREEK AT GOLDEN, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	223	27	16	137	12	4.4	97	33	8.6
2	234	28	18	133	12	4.3	92	24	6.0
3	316	50	43	134	31	11	93	18	4.5
4	261	44	31	127	16	5.5	97	28	7.3
5	240	43	28	123	13	4.3	90	22	5.3
6	209	32	18	116	17	5.3	94	26	6.6
7	195	18	9.5	114	20	6.2	101	22	6.0
8	236	30	19	108	28	8.2	103	21	5.8
9	292	48	38	109	35	10	99	66	18
10	321	48	42	120	42	14	109	33	9.7
11	272	34	25	120	36	12	110	28	8.3
12	289	32	25	113	43	13	105	18	5.1
13	274	37	27	131	41	15	100	9	2.4
14	248	30	20	118	31	9.9	94	9	2.3
15	222	28	17	112	39	12	92	9	2.2
16	221	31	18	124	42	14	92	8	2.0
17	218	26	15	122	51	17	85	5	1.1
18	210	32	18	112	36	11	82	5	1.1
19	185	29	14	100	26	7.0	79	5	1.1
20	169	18	8.2	97	26	6.8	79	5	1.1
21	163	19	8.4	102	26	7.2	79	3	.64
22	162	25	11	107	26	7.5	81	3	.66
23	164	23	10	104	26	7.3	76	3	.62
24	162	24	10	93	18	4.5	76	3	.62
25	167	26	12	99	24	6.4	78	5	1.1
26	163	28	12	95	22	5.6	75	12	2.4
27	162	26	11	100	16	4.3	68	5	.92
28	147	28	11	97	18	4.7	71	5	.96
29	144	13	5.1	93	20	5.0	63	5	.85
30	141	12	4.6	90	18	4.4	64	5	.86
31	140	12	4.5	87	20	4.7	---	---	---
TOTAL	6550	---	549.3	3437	---	252.5	2624	---	114.13
YEAR	40052		4283.83						

06720000 CLEAR CREEK AT MOUTH, NEAR DERBY, CO

LOCATION.--Lat 39°49'42", long 104°57'30", in SW¼SW¼ sec.36, T.2 S., R.68 W., Adams County, Hydrologic Unit 10190004, on right bank 210 ft (64 m) downstream from York Street bridge, 0.6 mi (1.0 km) upstream from mouth, and 2.5 mi (4.0 km) west of Derby.

DRAINAGE AREA.--575 mi² (1,489 km²).

PERIOD OF RECORD.--April to November 1914, March 1927 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,110 ft (1,558 m), from topographic map. See WSP 1710 or 1730 for history of changes prior to July 16, 1958. July 16, 1958, to Sept. 20, 1965, water-stage recorder at site 50 ft (15 m) upstream at datum 1.56 ft (0.475 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions (see elsewhere in this report), storage reservoirs, diversions for irrigation of about 75,000 acres (304 km²) above station, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--54 years, 91.1 ft³/s (2.580 m³/s), 66,000 acre-ft/yr (81.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,070 ft³/s (144 m³/s) July 24, 1965, gage height, 8.97 ft (2.734 m), present datum; minimum daily, 0.4 ft³/s (0.011 m³/s) Mar. 11, 1943.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 965 ft³/s (27.3 m³/s) at 1900 June 3, gage height, 4.52 ft (1.378 m); minimum daily, 0.93 ft³/s (0.026 m³/s) Apr. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	2.4	22	13	10	5.6	15	7.7	86	9.4	6.3	6.0
2	3.7	2.3	21	11	11	6.6	7.6	16	51	8.2	5.2	5.5
3	5.5	2.5	14	8.9	12	6.0	21	68	421	82	5.9	4.5
4	5.3	2.7	12	12	12	37	16	75	192	64	8.0	4.6
5	3.9	2.5	9.6	12	12	38	11	27	88	31	7.2	4.4
6	4.9	2.3	9.0	14	12	25	10	29	67	12	6.7	5.8
7	4.1	2.2	9.2	15	12	32	1.8	28	84	11	6.2	8.3
8	4.9	2.7	12	10	11	17	2.7	11	76	21	5.2	8.1
9	3.2	1.9	13	11	10	15	1.3	7.3	76	80	26	5.4
10	2.4	2.1	11	10	9.0	9.8	.99	5.0	72	95	37	5.8
11	2.7	2.0	12	10	8.5	11	1.1	3.8	73	75	9.5	5.9
12	5.8	2.2	13	10	11	12	1.5	5.8	50	65	9.3	6.5
13	8.3	15	12	12	12	11	2.0	18	119	89	8.8	6.8
14	5.1	42	12	10	13	9.3	3.7	5.0	62	54	7.2	5.7
15	3.1	26	12	9.8	14	8.4	8.1	4.9	125	24	8.8	5.2
16	3.9	23	11	9.9	14	9.6	2.0	12	66	18	8.5	4.8
17	49	16	11	9.8	15	11	2.7	116	34	17	9.4	4.8
18	19	2.6	11	11	13	33	3.5	151	20	15	5.9	4.6
19	23	2.4	11	11	12	12	11	31	16	12	5.0	4.6
20	12	2.2	11	9.1	14	13	58	12	9.8	7.7	4.9	4.4
21	4.5	2.3	14	10	23	43	23	10	23	7.5	5.3	4.3
22	4.0	12	14	12	14	20	2.2	12	47	8.8	17	4.0
23	3.9	27	18	13	13	11	1.4	13	39	8.5	7.8	6.7
24	3.6	30	17	12	12	14	.93	13	28	7.4	6.1	6.4
25	3.4	30	16	10	9.6	17	1.1	15	38	7.9	5.8	5.1
26	3.1	26	13	9.4	8.3	12	1.4	26	24	28	5.7	4.9
27	4.0	23	12	9.6	5.2	11	3.4	44	35	78	5.6	4.4
28	14	22	15	13	5.4	45	6.0	107	53	8.2	6.4	3.8
29	20	22	17	18	---	70	5.0	221	29	6.8	5.7	3.5
30	12	22	14	15	---	37	9.0	143	16	6.2	8.2	3.7
31	2.6	---	13	15	---	17	---	64	---	5.2	8.4	---
TOTAL	248.7	373.3	411.8	356.5	328.0	619.3	234.42	1301.5	2119.8	962.8	273.0	158.5
MEAN	8.02	12.4	13.3	11.5	11.7	20.0	7.81	42.0	70.7	31.1	8.81	5.28
MAX	49	42	22	18	23	70	58	221	421	95	37	8.3
MIN	2.4	1.9	9.0	8.9	5.2	5.6	.93	3.8	9.8	5.2	4.9	3.5
AC-FT	493	740	817	707	651	1230	465	2580	4200	1910	541	314

CAL YR 1980 TOTAL 65051.90 MEAN 178 MAX 1220 MIN 1.9 AC-FT 129000
WTR YR 1981 TOTAL 7387.62 MEAN 20.2 MAX 421 MIN .93 AC-FT 14650

06720415 GRANGE HALL CREEK AT NORTHGLENN, CO

LOCATION.--Lat 39°53'21", long 104°57'40", in NE¼SE¼ sec.11, T.2 S., R.68 W., Adams County, Hydrologic Unit 10190003, on right bank 50 ft (15 m) below south tributary and 800 ft (244 m) east of Irma Drive at Northglenn.

DRAINAGE AREA.--3.08 mi² (7.98 km²) of which 0.03 mi² (0.08 km²) is noncontributing.

PERIOD OF RECORD.--December 1977 to March 1981 (discontinued).

GAGE.--Water-stage recorder and trapezoidal flume. Altitude of gage is 5,205 ft (1,586 m), from topographic map.

REMARKS.--Records good. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 876 ft³/s (24.8 m³/s) Aug. 10, 1979, gage height, 4.62 ft (1.408 m); minimum daily, 0.07 ft³/s (0.002 m³/s) Dec. 31, 1978, Jan. 14, 22, 1979.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	.34	.17	.17	.22	.12						
2	1.6	.34	.17	.17	1.4	.12						
3	1.1	.40	.17	.17	.22	2.0						
4	.67	.46	.17	.17	.20	7.7						
5	.67	1.1	.17	.17	.15	5.5						
6	.98	.60	.22	.17	.15	---						
7	.98	.60	.22	.17	.15	---						
8	.67	.46	.53	.17	.15	---						
9	1.1	.40	.17	.12	.15	---						
10	.98	.34	.17	.12	.12	---						
11	.60	.53	.17	.12	.10	---						
12	.60	.67	.17	.17	.10	---						
13	.67	1.8	.17	.22	.12	---						
14	.60	1.3	.28	.17	.15	---						
15	.74	.67	.12	.15	.15	---						
16	.60	.67	.12	.10	.20	---						
17	.53	.67	.12	.15	.20	---						
18	.40	.67	.17	.22	.30	---						
19	.40	.53	.17	.17	.40	---						
20	.40	.46	.17	.15	.89	---						
21	.60	.67	.12	.20	1.2	---						
22	.74	.74	.17	.25	1.8	---						
23	1.2	1.3	.53	.25	.50	---						
24	.74	1.5	.28	.22	.30	---						
25	.40	.98	.17	.20	.22	---						
26	.34	.60	.17	.17	.17	---						
27	.90	.46	.17	.17	.12	---						
28	.60	.46	.17	.15	.12	---						
29	.46	.28	.17	.15	---	---						
30	.46	.22	.22	.17	---	---						
31	.40	---	.17	.17	---	---						
TOTAL	22.93	20.22	6.16	5.32	9.95	---						
MEAN	.74	.67	.20	.17	.36	---						
MAX	1.8	1.8	.53	.25	1.8	---						
MIN	.34	.22	.12	.10	.10	---						
AC-FT	45	40	12	11	20	---						

CAL YR 1980 TOTAL 596.67 MEAN 1.63 MAX 22 MIN .12 AC-FT 1180

06720417 GRANGE HALL CREEK BELOW NORTHGLENN, CO

LOCATION.--Lat 39°53'30", long 104°57'27", in NW¼SW¼ sec.12 T.2 S., R.68 W., Adams County, Hydrologic Unit 10190003, on left bank, 175 ft (53 m) upstream from Pacific Railroad culvert, 1,600 ft (488 m) downstream from South Tributary at Northglenn.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--March to September 1981.

GAGE.--Water-stage recorder and 90° V-notch weir. Altitude of gage is 5,200 ft (1,585 m), from topographic map.

REMARKS.--Records fair.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period May to September, 365 ft^3/s ($10.3 m^3/s$) at 0900 June 2, gage height, 8.10 ft (2.469 m), from rating curve extended above 60 ft^3/s ($1.70 m^3/s$), on basis of slope-area measurement at gage height 8.10 ft (2.469 m); minimum daily, 0.08 ft^3/s ($0.002 m^3/s$) Aug. 4, 5, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	3.2	.50	.23	.20
2								---	32	.42	.22	.32
3								---	61	.96	.15	.58
4								---	24	.71	.08	.40
5								---	3.8	.64	.08	.45
6								---	1.3	.71	.13	1.3
7								---	.81	2.8	.17	.54
8								---	.71	.92	.95	.47
9								---	.64	.54	4.3	.45
10								---	1.4	.42	2.7	.40
11								---	2.9	2.8	1.4	.40
12								---	1.2	1.9	.99	.35
13								---	.74	.81	.25	.30
14								---	.86	.47	.10	1.4
15								---	.71	.40	.33	.47
16								1.5	.50	.30	1.4	.20
17								9.9	.50	.28	.42	.12
18								8.0	.67	.30	.30	.35
19								2.7	.86	.30	.35	.28
20								1.0	.61	.28	.30	.28
21								.64	.50	.30	.30	.30
22								.47	.42	.33	4.3	.22
23								.40	.54	.30	1.7	5.3
24								.85	.57	.30	1.4	6.5
25								.62	.64	.30	.71	2.0
26								.40	2.0	.30	.25	.67
27								.94	.67	.35	.19	.28
28								5.2	.61	.15	.13	1.1
29								7.2	.45	.45	.08	.78
30								2.8	.42	.67	.10	1.1
31								4.2	---	.23	.10	---
TOTAL								---	145.23	20.14	24.11	27.51
MEAN								---	4.84	.65	.78	.92
MAX								---	61	2.8	4.3	6.5
MIN								---	.42	.15	.08	.12
AC-FT								---	288	40	48	55

06720500 SOUTH PLATTE RIVER AT HENDERSON, CO

LOCATION.--Lat 39°55'19", long 104°52'00", in SE¼NE¼ sec.34, T.1 S., R.67 W., Adams County, Hydrologic Unit 10190003, on right bank 500 ft (150 m) upstream from bridge on State Highway 22 and 0.2 mi (0.3 km) northwest of Henderson.

DRAINAGE AREA.--4,713 mi^2 (12,207 km^2).

PERIOD OF RECORD.--May 1926 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1934-36(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,003.12 ft (1,524.951 m) National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to June 1, 1960. June 1, 1960, to May 10, 1969, water-stage recorder at site 1,200 ft (370 m) upstream at datum 2.00 ft (0.610 m) higher. May 11 to Oct. 2, 1969, nonrecording gage at site 500 ft (150 m) downstream at present datum.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, groundwater withdrawals, diversions for irrigation of about 253,000 acres (1,020 km^2), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--48 years (water years 1927-74), 366 ft^3/s (10.37 m^3/s), 265,200 acre-ft/yr (327 hm^3/yr), prior to completion of Chatfield Dam; 7 years (water years 1975-81), 418 ft^3/s (11.84 m^3/s), 302,800 acre-ft/yr (373 hm^3/yr), subsequent to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft^3/s (935 m^3/s) May 6, 1973, gage height, 11.67 ft (3.557 m), from rating curve extended above 7,200 ft^3/s (200 m^3/s), partly on basis of flow-over-road measurement of peak flow; maximum gage height, 12.93 ft (3.941 m) June 17, 1965, site and datum then in use; minimum daily discharge, 4.4 ft^3/s (0.12 m^3/s) Apr. 1, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,910 ft^3/s (82.4 m^3/s) at 2130 June 3, gage height, 4.67 ft (1.423 m); minimum daily, 105 ft^3/s (2.97 m^3/s) Mar. 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	213	164	229	176	176	130	173	249	555	252	316	262
2	213	167	226	179	185	105	135	229	435	229	305	246
3	216	170	219	179	182	105	214	434	1420	276	305	242
4	203	173	216	185	182	244	216	544	817	286	305	327
5	194	173	197	200	173	315	182	246	469	249	294	320
6	203	173	179	188	173	297	185	286	324	242	286	297
7	200	170	185	185	176	290	167	320	246	242	272	324
8	188	173	197	176	173	262	176	223	252	359	242	294
9	191	194	194	173	173	255	173	200	249	312	262	280
10	191	203	191	173	161	246	161	236	239	335	474	262
11	185	207	194	173	164	246	164	219	229	290	308	308
12	179	207	197	176	203	246	158	272	236	283	301	335
13	188	223	194	179	246	246	161	545	246	537	320	308
14	191	255	194	176	239	239	152	286	232	335	312	312
15	164	226	191	179	232	232	164	239	305	320	280	327
16	167	213	182	182	236	219	161	324	259	433	324	308
17	226	216	182	179	249	179	155	717	236	371	391	269
18	188	203	188	179	236	239	161	748	239	451	359	249
19	170	203	185	176	239	252	179	290	269	383	351	200
20	176	207	185	173	242	213	186	249	255	363	339	188
21	167	210	168	173	249	290	197	246	232	359	339	185
22	167	210	185	176	236	255	173	236	246	391	383	203
23	158	232	176	179	219	216	167	223	239	403	399	210
24	150	242	182	176	188	197	161	203	226	355	399	269
25	150	242	179	176	176	188	161	197	232	312	403	226
26	150	232	179	173	152	185	155	223	255	312	395	223
27	161	216	182	170	120	182	173	232	262	921	301	223
28	173	210	179	167	122	379	226	555	252	415	276	232
29	173	219	188	182	---	401	259	1260	266	411	252	207
30	170	219	188	179	---	297	290	706	308	343	269	188
31	167	---	185	173	---	213	---	736	---	327	262	---
TOTAL	5632	6152	5936	5510	5502	7363	5385	11673	10030	11097	10024	7824
MEAN	182	205	191	178	197	238	180	377	334	358	323	261
MAX	226	255	229	200	249	401	290	1260	1420	921	474	335
MIN	150	164	176	167	120	105	135	197	226	229	242	185
AC-FT	11170	12200	11770	10930	10910	14600	10680	23150	19890	22010	19880	15520

CAL YR 1980 TOTAL 325520 MEAN 889 MAX 5420 MIN 150 AC-FT 645700
WTR YR 1981 TOTAL 92128 MEAN 252 MAX 1420 MIN 105 AC-FT 182700

06724000 ST. VRAIN CREEK AT LYONS, CO

LOCATION.--Lat 40°13'05", long 105°15'34", in NW¼NW¼ sec.20, T.3 N., R.70 W., Boulder County, Hydrologic Unit 10190005, on left bank 75 ft (23 m) southwest of U.S. Highway 36 (State Highways 7 and 66) at southeast edge of Lyons, 400 ft (120 m) upstream from St. Vrain Supply Canal, and 0.4 mi (0.6 km) downstream from confluence of North and South St. Vrain Creeks.

DRAINAGE AREA.--212 mi² (549 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1887 to September 1891, June 1895 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "near Lyons" 1901, 1903.

REVISED RECORDS.--WSP 1310: 1898, 1900. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,292 ft (1,613 m), from topographic map. Prior to Apr. 6, 1923, nonrecording gages near present site at different datums. Apr. 6, 1923, to Sept. 30, 1956, water-stage recorder at same site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good. Diversions above station for irrigation of about 20,000 acres (80.9 km²). Flow partly regulated by small reservoirs above station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--90 years (water years 1888-91, 1896-1981), 128 ft³/s (3.625 m³/s), 92,740 acre-ft/yr (114 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft³/s (297 m³/s) June 22, 1941, gage height, 9.06 ft (2.761 m), present datum, from floodmark, from rating curve extended above 2,100 ft³/s (59 m³/s), on basis of slope-area measurement at gage height 8.90 ft (2.713 m); no flow Jan. 19, 20, 1922, Jan. 12, 13, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in June 1864 and May 1876. Flood in May or June 1894 reached a stage of 9.13 ft (2.783 m), from information by local resident, discharge, about 9,800 ft³/s (278 m³/s). For discussions of these floods, see WSP 997.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 418 ft³/s (11.8 m³/s) at 0900 June 4, gage height, 4.08 ft (1.244 m); minimum daily, 6.6 ft³/s (0.19 m³/s) Jan. 4, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	27	18	7.2	11	11	19	81	215	131	86	47
2	47	26	18	9.6	12	12	14	108	213	141	89	44
3	47	25	20	7.0	14	10	21	173	227	217	79	56
4	32	26	19	6.6	12	18	21	173	355	217	72	56
5	30	25	15	8.4	9.9	14	18	139	299	174	63	52
6	30	25	18	8.5	13	12	19	114	223	157	67	59
7	26	24	17	8.9	7.6	12	21	103	263	172	68	60
8	24	25	14	6.6	12	16	15	71	271	192	64	54
9	27	25	14	7.8	13	17	23	60	240	190	67	52
10	28	25	15	11	10	13	24	57	243	188	74	55
11	29	24	16	7.3	10	14	28	60	271	182	74	59
12	24	24	16	9.4	12	17	24	56	257	183	76	60
13	26	28	12	10	13	16	22	60	226	193	76	56
14	28	23	12	11	14	15	26	58	229	167	71	54
15	34	21	14	10	14	17	24	57	227	134	81	56
16	37	20	15	10	14	16	26	58	180	134	86	58
17	31	19	15	13	12	15	26	64	130	148	95	57
18	31	21	14	13	15	19	33	67	130	146	82	52
19	33	21	13	12	15	17	41	63	132	146	72	49
20	32	21	10	12	12	18	58	63	129	134	77	40
21	40	22	15	13	14	17	52	64	138	119	79	38
22	27	22	15	13	11	18	50	68	143	105	90	37
23	25	22	13	13	9.2	18	50	62	140	105	90	25
24	27	21	8.2	13	10	17	49	61	137	87	88	29
25	26	21	17	15	13	16	49	65	138	96	76	34
26	29	22	14	14	11	16	56	97	141	94	68	32
27	31	19	11	14	14	17	62	171	149	102	56	24
28	30	21	14	15	12	20	54	217	166	94	51	20
29	29	21	13	14	---	19	66	286	165	86	51	20
30	33	19	12	16	---	19	70	213	145	86	45	18
31	29	---	8.1	14	---	18	---	213	---	84	46	---
TOTAL	966	685	445.3	343.3	339.7	494	1061	3202	5922	4404	2259	1353
MEAN	31.2	22.8	14.4	11.1	12.1	15.9	35.4	103	197	142	72.9	45.1
MAX	47	28	20	16	15	20	70	286	355	217	95	60
MIN	24	19	8.1	6.6	7.6	10	14	56	129	84	45	18
AC-FT	1920	1360	883	681	674	980	2100	6350	11750	8740	4480	2680

CAL YR 1980 TOTAL 73262.3 MEAN 200 MAX 1300 MIN 8.1 AC-FT 145300
WTR YR 1981 TOTAL 21474.3 MEAN 58.8 MAX 355 MIN 6.6 AC-FT 42590

06724000 ST. VRAIN CREEK AT LYONS, CO--Continued

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1977 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	SPECIFIC CONDUCTANCE LAB (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	NITROGEN DISSOLVED (MG/L AS N)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
OCT												
08...	1210	21	120	78	7.0	13.5	8.8	1.1	--	--	30	8.7
NOV												
20...	1130	24	110	78	7.0	3.0	10.2	1.2	170	K24	27	8.0
DEC												
17...	1030	17	140	77	7.4	3.5	10.4	.69	76	K33	27	7.4
JAN												
22...	1240	24	80	81	7.1	2.0	11.2	.70	140	K2	31	8.9
FEB												
25...	1415	15	80	87	7.3	8.0	9.2	1.2	72	<2	32	9.0

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	SULFATE DISSOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT												
08...	2.0	3.0	.2	7.1	57	.08	3.2	.22	.020	.85	.87	.070
NOV												
20...	1.8	3.3	.3	9.4	51	.07	3.3	.33	.100	.76	.86	.670
DEC												
17...	2.0	3.6	.3	9.0	42	.06	1.9	.29	.120	.28	.40	.100
JAN												
22...	2.1	4.6	.4	6.9	47	.06	3.0	.34	.080	.28	.36	.070
FEB												
25...	2.2	4.1	.3	13	47	.06	1.9	.42	.080	.72	.80	.160

06725450 ST. VRAIN CREEK BELOW LONGMONT, CO

LOCATION.--Lat 40°09'29", long 105°00'53", in NW¼NW¼ sec.9, T.2 N., R.68 W., Weld County, Hydrologic Unit 10190005, on right bank 1,600 ft (488 m) upstream from mouth of Boulder Creek, 1.8 mi (2.9 km) downstream from Spring Gulch, and 4.7 mi (7.6 km) southeast of Longmont.

DRAINAGE AREA.--424 mi^2 (1,098 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,850 ft (1,478 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--5 years, 123 ft^3/s (3.483 m^3/s), 89,110 acre-ft/yr (110 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,380 ft^3/s (67.4 m^3/s) May 1, 1980, gage height, 6.37 ft (1.941 m); minimum daily, 22 ft^3/s (0.62 m^3/s) Apr. 25, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 201 ft^3/s (5.69 m^3/s) at 1000 Aug. 13, gage height, 2.98 ft (0.908 m); minimum daily, 28 ft^3/s (0.79 m^3/s) Feb. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	66	50	41	37	30	33	40	68	79	153	76
2	81	57	50	41	41	32	33	46	63	66	147	68
3	85	57	50	40	38	44	37	56	64	85	150	85
4	79	59	48	40	36	66	45	72	83	85	150	90
5	68	57	47	40	38	50	40	60	68	83	150	76
6	64	57	46	41	36	44	36	54	59	83	150	70
7	64	55	46	42	37	47	33	45	53	90	150	79
8	62	55	48	40	36	41	31	45	55	94	153	72
9	61	53	48	41	36	41	31	42	47	99	162	66
10	59	52	59	38	28	42	31	40	52	102	171	68
11	64	53	61	38	64	40	31	36	55	99	162	66
12	64	55	57	38	68	37	31	34	50	99	162	70
13	61	57	46	37	55	36	31	34	44	110	180	68
14	74	61	42	40	50	34	32	33	44	97	165	70
15	85	57	44	40	44	32	33	30	57	83	165	66
16	117	57	50	41	41	32	34	32	50	97	162	68
17	81	55	46	38	41	32	34	38	50	107	138	72
18	70	53	44	40	40	38	35	74	49	112	104	68
19	70	50	44	42	38	37	35	72	64	102	99	64
20	70	50	42	38	38	37	36	61	59	112	92	53
21	70	52	47	36	38	40	38	53	59	102	102	50
22	74	50	47	37	37	37	35	49	64	94	99	48
23	66	52	48	37	37	35	35	49	64	102	104	50
24	64	53	44	38	36	35	34	46	68	104	110	70
25	61	52	42	40	36	34	32	43	72	102	110	74
26	57	50	42	40	34	33	33	49	79	110	104	72
27	61	48	40	40	34	33	34	46	87	129	104	59
28	62	52	38	41	31	34	35	61	83	110	117	53
29	64	52	41	40	---	44	35	94	99	94	104	48
30	64	52	41	37	---	38	36	79	90	120	104	47
31	64	---	42	44	---	35	---	74	---	153	94	---
TOTAL	2158	1629	1440	1226	1125	1190	1029	1587	1899	3104	4117	1986
MEAN	69.6	54.3	46.5	39.5	40.2	38.4	34.3	51.2	63.3	100	133	66.2
MAX	117	66	61	44	68	66	45	94	99	153	180	90
MIN	57	48	38	36	28	30	31	30	44	66	92	47
AC-FT	4280	3230	2860	2430	2230	2360	2040	3150	3770	6160	8170	3940

CAL YR 1980 TOTAL 83995 MEAN 229 MAX 1940 MIN 38 AC-FT 166600
WTR YR 1981 TOTAL 22490 MEAN 61.6 MAX 180 MIN 28 AC-FT 44610

NOTE.--NO GAGE-HEIGHT RECORD MAR. 23 TO MAY 19.

06725450 ST. VRAIN CREEK BELOW LONGMONT, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN DIS-SOLVED (MG/L AS N)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT												
09...	1330	58	1300	1316	8.4	17.0	11.7	5.4	420	580	500	95
NOV												
18...	1445	54	1500	1512	8.4	8.0	14.0	8.1	220	K20	600	110
DEC												
15...	1440	45	1550	1570	8.4	6.5	13.2	6.1	450	360	690	130
JAN												
21...	1345	36	1700	1710	8.1	6.0	12.9	7.7	K920	230	710	130
FEB												
23...	1500	40	1500	1470	8.3	8.0	12.8	6.7	380	K8	580	110

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT												
09...	65	92	1.8	460	946	1.2	148	3.2	1.60	.60	2.2	.290
NOV												
18...	78	120	2.1	530	1110	1.5	162	3.6	3.40	1.1	4.5	.520
DEC												
15...	88	120	2.0	590	1210	1.6	147	3.8	1.70	.60	2.3	.140
JAN												
21...	94	130	2.1	750	1300	1.7	126	4.0	2.60	1.1	3.7	.250
FEB												
23...	75	110	2.0	540	1090	1.4	118	3.3	2.30	1.1	3.4	.230

06725500 MIDDLE BOULDER CREEK AT NEDERLAND, CO

LOCATION.--Lat 39°57'42", long 105°30'14", in NE¼SE¼ sec.13, T.1 S., R.73 W., Boulder County, Hydrologic Unit 10190005, on left bank at Nederland just downstream from North Beaver Creek and 1,000 ft (300 m) upstream from Barker Reservoir.

DRAINAGE AREA.--36.2 mi² (93.8 km²).

PERIOD OF RECORD.--June 1907 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder and compound sharp-crested weir. Datum of gage is 8,186.0 ft (2,495.09 m) Public Service Co. Datum. Prior to Mar. 18, 1909, at datum 4.0 ft (1.22 m) lower. Mar. 18, 1909, to Apr. 23, 1952, at datum 2.5 ft (0.76 m) lower than present datum.

REMARKS.--Records good. No diversion above station. Flow regulated at times by Jasper Lake, capacity, 326 acre-ft (402,000 m³). North Beaver Creek entered Middle Boulder Creek downstream from station June 1 to Dec. 31, 1907, March 1911 to Dec. 31, 1916. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--74 years, 54.0 ft³/s (1.529 m³/s), 39,120 acre-ft/yr (48.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 811 ft³/s (23.0 m³/s) June 2, 1914, gage height, 5.37 ft (1.637 m), datum then in use, by computation of peak flow over compound weir; minimum daily, 0.8 ft³/s (0.023 m³/s) Jan. 14, 1908.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 463 ft³/s (13.1 m³/s) at 2000 June 9, gage height, 3.18 ft (0.969 m); only peak above base of 280 ft³/s (7.9 m³/s); minimum daily, 1.9 ft³/s (0.054 m³/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	9.3	7.5	4.5	2.0	3.7	5.7	66	213	93	31	22
2	13	9.5	7.3	4.0	2.2	3.7	6.1	80	201	118	27	17
3	13	9.3	7.3	4.0	2.3	3.5	6.3	122	213	130	27	32
4	13	10	7.3	4.0	2.3	3.7	5.1	95	299	101	25	26
5	12	9.8	7.3	4.0	2.2	4.5	5.5	74	256	86	24	26
6	12	9.8	7.1	3.7	2.2	4.1	5.9	68	292	80	24	31
7	12	9.3	7.1	3.4	2.0	3.5	6.1	58	331	82	24	28
8	11	9.3	5.7	3.5	2.0	4.3	5.5	45	320	99	23	25
9	11	8.7	5.7	3.4	2.0	4.5	6.5	41	346	83	24	25
10	11	8.7	5.1	3.2	2.0	4.1	8.3	39	323	75	24	25
11	11	9.1	5.9	3.0	1.9	4.3	8.9	38	297	71	24	24
12	11	9.3	5.9	2.9	1.9	4.5	10	35	259	78	26	22
13	11	9.1	5.3	2.6	2.0	3.7	11	34	210	80	29	20
14	12	7.7	4.5	2.4	2.2	3.5	11	34	167	68	24	19
15	13	8.7	4.3	2.6	2.6	3.7	13	36	124	59	22	19
16	12	8.3	5.1	3.0	2.9	3.7	14	36	104	57	23	19
17	11	6.9	6.5	2.0	3.0	3.7	16	36	104	48	26	18
18	14	7.7	6.7	2.5	3.0	3.5	25	34	106	45	22	17
19	15	7.9	5.9	3.0	3.7	3.9	27	35	102	45	20	15
20	15	7.3	5.1	3.4	3.7	3.5	27	42	116	42	18	15
21	14	7.1	4.5	2.9	3.5	3.5	25	42	124	39	18	15
22	13	6.9	4.3	3.0	3.4	3.9	25	38	126	37	20	15
23	11	6.9	4.3	3.2	3.5	4.1	20	38	116	36	21	14
24	9.3	7.5	4.3	3.2	3.7	4.3	28	39	112	35	18	14
25	11	7.5	4.5	4.3	3.7	4.9	36	44	118	36	17	14
26	11	8.5	4.5	2.9	3.7	4.7	42	83	120	36	16	14
27	9.1	8.5	4.9	2.6	3.5	5.1	45	120	118	38	20	12
28	8.5	8.5	5.3	2.9	3.9	4.5	44	158	120	34	17	11
29	10	8.7	5.1	2.8	---	4.5	51	199	99	31	14	11
30	11	8.3	5.1	2.6	---	4.7	59	169	88	29	14	11
31	9.8	---	4.9	3.0	---	4.3	---	199	---	29	14	---
TOTAL	363.7	254.1	174.3	98.5	77.0	126.1	598.9	2177	5524	1920	676	576
MEAN	11.7	8.47	5.62	3.18	2.75	4.07	20.0	70.2	184	61.9	21.8	19.2
MAX	15	10	7.5	4.5	3.9	5.1	59	199	346	130	31	32
MIN	8.5	6.9	4.3	2.0	1.9	3.5	5.1	34	88	29	14	11
AC-FT	721	504	346	195	153	250	1190	4320	10960	3810	1340	1140

CAL YR 1980 TOTAL 22796.0 MEAN 62.3 MAX 450 MIN 3.2 AC-FT 45220
WTR YR 1981 TOTAL 12565.6 MEAN 34.4 MAX 346 MIN 1.9 AC-FT 24920

06727000 BOULDER CREEK NEAR ORODELL, CO

LOCATION.--Lat 40°00'23", long 105°19'49", in NE¼SW¼ sec.34, T.1 N., R.71 W., Boulder County, Hydrologic Unit 10190005, on left bank along State Highway 119, 0.7 mi (1.1 km) southwest of old Orodell, 1.1 mi (1.8 km) upstream from Fourmile Creek, and 2.9 mi (4.7 km) southwest of courthouse in Boulder.

DRAINAGE AREA.--102 mi² (264 km²).

PERIOD OF RECORD.--August to October 1887, April to October 1888, October 1906 to November 1914, March 1916 to current year. Monthly discharge only for some periods, published in WSP 1310. Figures of daily discharge for Feb. 3-10, 17-25, 1912, published in WSP 326, have been found to be unreliable and should not be used. Published as North Boulder Creek, Colorado 1887-88 and as "at Orodell" March 1907 to December 1916.

REVISED RECORDS.--WSP 1310: 1941(M). WSP 1560: 1914(M). WSP 1730: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Altitude of gage is 5,826 ft (1,775.8 m), from topographic map. Prior to Sept. 1, 1907, nonrecording gage, and Sept. 1, 1907, to May 11, 1917, water-stage recorder, at sites 1.1 mi (1.8 km) downstream, just upstream from Fourmile Creek, at different datums.

REMARKS.--Records good. Flow regulated by Barker Reservoir, capacity, 11,500 acre-ft (14.2 hm³). Low flow during nonirrigation season regulated by Orodell powerplant 1,500 ft (460 m) upstream from station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--73 years (water years 1907-14, 1917-81), 88.0 ft³/s (2.492 m³/s), 63,760 acre-ft/yr (78.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,500 ft³/s (70.8 m³/s) June 6, 1921, gage height, 4.31 ft (1.314 m), from rating curve extended above 1,200 ft³/s (34.0 m³/s); minimum daily, 1 ft³/s (0.03 m³/s) Jan. 29, Feb. 1-3, 16-24, 1933.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods are known to have occurred in June 1864, May 1876, June 1894, and June 1914, stages and discharges unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 240 ft³/s (6.80 m³/s) at 0700 June 4, gage height, 2.94 ft (0.896 m); minimum daily, 2.2 ft³/s (0.06 m³/s) Mar. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	4.9	33	43	15	2.2	19	42	95	88	40	26
2	20	5.0	48	25	15	14	13	43	90	114	48	27
3	23	52	37	5.0	15	12	7.8	65	105	177	41	38
4	20	49	45	5.3	15	12	5.6	69	190	136	28	56
5	18	50	17	25	14	15	5.8	67	149	109	24	55
6	22	52	4.8	41	3.0	3.0	16	56	127	91	20	67
7	12	26	4.2	52	14	2.6	21	64	122	83	26	62
8	15	4.3	23	45	2.5	3.0	17	54	107	122	31	54
9	22	13	52	23	12	20	19	55	90	111	34	46
10	21	33	47	5.2	14	14	16	51	81	101	48	42
11	24	46	41	4.2	18	14	10	51	76	81	46	34
12	23	44	18	33	17	14	11	45	95	91	44	30
13	23	35	5.5	43	3.5	2.6	31	43	99	122	48	30
14	18	23	5.8	39	3.5	2.4	31	41	106	122	44	26
15	25	14	42	42	3.5	2.4	35	38	136	98	36	26
16	6.1	5.5	40	22	4.0	2.8	30	42	143	79	38	30
17	4.5	39	43	2.8	25	19	29	49	110	80	56	26
18	3.8	46	45	3.5	16	18	34	52	97	69	47	21
19	3.5	43	17	29	16	18	29	52	92	75	44	14
20	3.2	43	5.0	49	3.8	3.2	53	54	105	62	38	11
21	3.1	6.0	7.4	39	3.0	3.3	49	58	115	52	30	11
22	3.1	6.8	42	40	2.6	3.5	49	48	129	37	30	11
23	3.5	33	44	26	17	26	47	50	115	40	34	15
24	2.9	20	40	7.5	14	4.1	50	48	97	54	36	14
25	2.9	48	43	8.5	12	3.8	51	45	97	56	35	16
26	4.0	16	17	28	15	4.5	39	52	113	61	30	23
27	4.4	4.5	4.8	36	11	5.3	43	63	133	67	25	14
28	4.3	18	5.1	34	2.3	6.1	41	98	143	60	27	13
29	33	4.4	36	35	---	7.5	52	149	126	52	24	11
30	39	4.9	44	3.2	---	20	49	121	102	37	24	10
31	27	---	43	3.5	---	21	---	97	---	25	26	---
TOTAL	453.3	789.3	899.6	797.7	306.7	299.3	903.2	1862	3385	2552	1102	859
MEAN	14.6	26.3	29.0	25.7	11.0	9.65	30.1	60.1	113	82.3	35.5	28.6
MAX	39	52	52	52	25	26	53	149	190	177	56	67
MIN	2.9	4.3	4.2	2.8	2.3	2.2	5.6	38	76	25	20	10
AC-FT	899	1570	1780	1580	608	594	1790	3690	6710	5060	2190	1700

CAL YR 1980 TOTAL 36377.2 MEAN 99.4 MAX 504 MIN 2.9 AC-FT 72150
WTR YR 1981 TOTAL 14209.1 MEAN 38.9 MAX 190 MIN 2.2 AC-FT 28180

06729500 SOUTH BOULDER CREEK NEAR ELDORADO SPRINGS, CO

LOCATION.--Lat 39°55'52", long 105°17'43", in SE¼ sec.26, T.1 S., R.71 W., Boulder County, Hydrologic Unit 10190005, on left bank 0.2 mi (0.3 km) downstream from South Draw, 1.0 mi (1.6 km) west of Eldorado Springs, 1.8 mi (2.9 km) downstream from South Boulder diversion canal, 5.0 mi (8.0 km) south of Boulder, and 6.7 mi (10.8 km) downstream from Gross Reservoir.

DRAINAGE AREA.--109 mi² (282 km²).

PERIOD OF RECORD.--April 1888 to October 1892, May 1895 to September 1901, August 1904 to current year. No winter records for water years 1889-92, 1900. Monthly discharge only for some periods, published in WSP 1310. Prior to January 1911, published as "at" or "near Marshall;" January 1911 to December 1913 as "at Eldorado Springs." Records for periods June 1900 to September 1901, August 1904 to September 1908, and October 1909 to September 1911, are not adjusted for diversions by Community ditch and South Boulder and Coal Creek ditch; all other records contain flow in these ditches.

REVISED RECORDS.--WSP 856: 1937(M). WSP 1310: 1937. WSP 1440: 1896. WSP 1710: Drainage area. WSP 1730: 1959-60.

GAGE.--Water-stage recorder. Altitude of gage is 6,080 ft (1,853 m), from topographic map. See WSP 1710 or 1730 for history of changes prior to May 10, 1940.

REMARKS.--Records good except those for winter period, which are fair. Many small diversions above station for irrigation. Water is imported above Gross Reservoir from Colorado River basin through Moffat water tunnel (see elsewhere in this report). Flow regulated since May 1, 1955, by Gross Reservoir, capacity, 43,060 acre-ft (53.1 hm³), 6.7 mi (10.8 km) above station. City of Denver diverts water 1.8 mi (2.9 km) above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--25 years (water years 1957-81), 61.7 ft³/s (1.747 m³/s), 44,700 acre-ft/yr (55.1 hm³/yr), unadjusted for storage and diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,390 ft³/s (209 m³/s) Sept. 2, 1938, gage height, 9.24 ft (2.816 m), from floodmarks, site and datum then in use, from rating curve extended above 600 ft³/s (17 m³/s), on basis of slope-area measurement of peak flow; no flow Oct. 15, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 366 ft³/s (10.4 m³/s) at 1000 June 4, gage height, 3.08 ft (0.939 m); minimum daily, 3.0 ft³/s (0.085 m³/s) Jan. 9-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	10	9.0	10	5.0	6.4	12	70	298	52	12	6.4
2	17	10	12	10	5.0	6.4	12	70	294	68	11	8.0
3	7.2	11	12	10	5.0	6.4	14	72	306	111	10	20
4	6.8	12	14	10	5.0	6.5	12	109	326	102	17	22
5	7.2	12	16	10	5.0	6.5	12	139	318	87	21	20
6	7.2	12	16	9.5	5.0	6.5	14	102	318	54	13	21
7	7.6	12	16	7.0	5.0	6.5	14	70	314	43	12	21
8	7.6	13	16	4.5	5.0	6.5	13	54	314	44	16	20
9	9.0	14	16	3.0	4.5	6.5	15	53	298	44	18	27
10	12	13	16	3.0	4.0	9.0	16	45	294	53	22	29
11	13	12	12	3.0	4.0	13	16	54	298	45	24	24
12	13	10	9.5	3.0	4.5	12	16	54	278	38	23	21
13	14	10	9.0	3.0	5.0	12	16	48	232	59	22	20
14	14	10	9.0	3.0	5.0	12	22	45	178	50	22	17
15	14	10	9.0	3.0	5.0	12	25	46	118	40	26	14
16	15	9.5	8.5	3.0	5.5	12	25	48	94	43	26	14
17	12	9.0	12	3.0	5.5	12	26	52	94	49	22	14
18	6.4	8.5	11	3.0	5.5	12	26	54	94	48	20	14
19	6.4	8.0	13	3.0	5.5	12	26	65	79	43	15	14
20	6.4	8.0	16	3.0	5.5	12	27	70	70	35	13	14
21	6.4	8.0	16	3.0	6.0	13	28	69	87	32	14	14
22	6.4	8.0	16	3.0	6.0	12	38	59	102	26	17	14
23	6.4	8.0	14	3.0	6.0	12	48	53	104	21	15	14
24	6.4	8.0	12	3.5	6.4	12	48	52	83	22	19	16
25	6.4	10	12	4.0	6.4	12	48	52	67	25	23	14
26	6.4	12	10	4.5	6.4	9.5	49	64	76	25	24	14
27	6.8	12	7.2	5.5	6.4	9.5	49	111	78	35	27	14
28	6.0	9.0	7.2	6.0	6.4	16	46	184	94	37	32	14
29	8.5	6.8	7.2	6.0	---	16	59	278	100	29	33	10
30	10	6.8	6.8	6.0	---	16	72	298	79	22	32	6.8
31	10	---	7.6	5.5	---	12	---	302	---	15	19	---
TOTAL	294.5	302.6	368.0	157.0	149.5	328.2	844	2842	5485	1397	620	491.2
MEAN	9.50	10.1	11.9	5.06	5.34	10.6	28.1	91.7	183	45.1	20.0	16.4
MAX	19	14	16	10	6.4	16	72	302	326	111	33	29
MIN	6.0	6.8	6.8	3.0	4.0	6.4	12	45	67	15	10	6.4
AC-FT	584	600	730	311	297	651	1670	5640	10880	2770	1230	974

CAL YR 1980 TOTAL 21710.1 MEAN 59.3 MAX 375 MIN 6.0 AC-FT 43060
WTR YR 1981 TOTAL 13279.0 MEAN 36.4 MAX 326 MIN 3.0 AC-FT 26340

06730300 COAL CREEK NEAR PLAINVIEW, CO

LOCATION.--Lat 39°52'40", long 105°16'36", in SE¼NE¼ sec.13, T.2 S., R.71 W., Jefferson County, Hydrologic Unit 10190005, on left bank 100 ft (30 m) upstream from culvert on State Highway 72, 1.2 mi (1.9 km) south of Plainview, 4.9 mi (7.9 km) downstream from Beaver Creek, and 9 mi (14 km) north of Golden.

DRAINAGE AREA.--15.1 mi² (39.1 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1959 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,540 ft (1,993 m), from topographic map. Prior to June 17, 1964, water-stage recorder at site 60 ft (18 m) downstream at datum 4.49 ft (1.369 m) lower.

REMARKS.--Records good except those for winter period, which are poor. No diversion above station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--22 years, 4.59 ft³/s (0.130 m³/s), 3,330 acre-ft/yr (4.11 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,060 ft³/s (58.3 m³/s) May 7, 1969, gage height, 5.30 ft (1.615 m), from rating curve extended above 730 ft³/s (21 m³/s); no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 64 ft³/s (1.81 m³/s) at 2330 May 30, gage height, 1.37 ft (0.418 m); no flow Aug. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.35	.40	.40	.16	.50	3.4	3.0	38	1.6	.16	.07
2	.05	.35	.45	.40	.16	.50	3.4	2.8	32	4.1	.13	.07
3	.05	.35	.45	.40	.16	.50	4.0	4.2	39	4.3	.13	.07
4	.03	.35	.40	.40	.19	.55	3.8	4.0	50	3.0	.07	.07
5	.03	.35	.40	.40	.19	.67	3.8	3.4	44	2.2	.02	.05
6	.03	.35	.40	.40	.19	.67	5.0	3.8	37	1.5	.03	.05
7	.05	.35	.40	.40	.19	.67	5.0	3.0	29	1.3	.01	.13
8	.05	.35	.40	.35	.19	.80	5.0	2.8	24	1.3	.00	.19
9	.05	.35	.40	.35	.20	.87	5.0	3.4	18	1.2	.08	.13
10	.05	.35	.40	.40	.15	.94	5.8	3.8	15	1.0	.40	.10
11	.03	.35	.35	.31	.15	1.1	6.1	4.3	13	.80	.35	.13
12	.02	.35	.35	.31	.20	1.2	6.8	3.6	12	.94	.45	.10
13	.02	.45	.35	.27	.23	1.2	6.4	4.3	9.1	1.5	.45	.07
14	.03	.50	.31	.16	.23	1.2	6.4	4.8	8.3	1.0	.40	.10
15	.03	.50	.31	.16	.23	1.1	6.4	4.3	7.1	.73	.50	.10
16	.05	.50	.31	.16	.23	1.1	6.1	4.3	6.4	.67	.45	.10
17	.05	.55	.31	.16	.23	1.2	6.4	17	5.2	.67	1.5	.10
18	.05	.50	.40	.16	.23	1.2	6.4	34	4.8	.67	.61	.07
19	.05	.50	.40	.16	.23	1.0	7.5	28	4.3	.73	.35	.10
20	.10	.40	.40	.16	.31	1.1	9.6	28	3.6	.50	.27	.10
21	.19	.40	.40	.19	.40	1.1	7.9	26	3.4	.35	.31	.10
22	.19	.40	.40	.16	.40	1.3	7.1	23	2.8	.27	.40	.07
23	.27	.40	.35	.16	.40	1.8	5.8	19	2.7	.27	.55	.07
24	.27	.40	.35	.16	.40	1.9	5.5	16	2.7	.13	.31	.07
25	.27	.40	.40	.16	.40	1.9	4.8	14	2.5	.19	.19	.30
26	.27	.45	.40	.16	.45	2.0	4.5	15	2.7	.45	.16	.19
27	.35	.50	.40	.13	.45	2.2	4.0	14	2.7	.73	.19	.10
28	.45	.45	.40	.13	.45	2.7	3.8	24	2.5	.45	.16	.07
29	.45	.40	.40	.16	---	3.4	3.6	51	2.3	.27	.13	.05
30	.40	.35	.40	.16	---	5.0	3.4	60	2.0	.19	.13	.07
31	.35	---	.40	.16	---	3.8	---	50	---	.16	.10	---
TOTAL	4.31	12.25	11.89	7.64	7.40	45.17	162.7	478.8	426.1	33.17	8.99	2.99
MEAN	.14	.41	.38	.25	.26	1.46	5.42	15.4	14.2	1.07	.29	.10
MAX	.45	.55	.45	.40	.45	5.0	9.6	60	50	4.3	1.5	.30
MIN	.02	.35	.31	.13	.15	.50	3.4	2.8	2.0	.13	.00	.05
AC-FT	8.5	24	24	15	15	90	323	950	845	66	18	5.9

CAL YR 1980 TOTAL 4045.12 MEAN 11.1 MAX 166 MIN .01 AC-FT 8020
WTR YR 1981 TOTAL 1201.41 MEAN 3.29 MAX 60 MIN .00 AC-FT 2380

06730300 COAL CREEK NEAR PLAINVIEW, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1977 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
09...	1630	.15	600	604	7.7	14.0	7.2	130	33	12
NOV										
21...	1005	.25	228	228	7.3	2.5	10.5	58	15	4.9
DEC										
18...	1420	.33	200	196	7.4	4.0	10.1	49	13	4.1
JAN										
20...	1035	.13	200	199	7.2	.0	11.2	49	13	4.1
FEB										
26...	1305	.20	200	167	7.5	5.0	10.0	46	12	3.9
MAR										
23...	1055	.40	310	301	7.2	5.0	9.8	68	19	5.0
APR										
27...	1020	2.3	125	172	7.2	8.5	9.0	46	13	3.4
MAY										
26...	0915	9.1	135	134	7.0	8.5	8.5	35	9.6	2.6
JUN										
24...	0835	1.6	160	157	7.6	13.0	8.0	47	13	3.6
JUL										
23...	1200	.19	220	215	7.5	20.0	7.7	54	14	4.5
AUG										
10...	0950	.23	275	264	7.3	12.5	8.0	56	15	4.6
SEP										
01...	0850	.10	330	316	7.5	12.0	8.5	72	19	5.9

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT										
09...	67	2.5	2.2	110	25	120	.2	17	343	.47
NOV										
21...	20	1.1	1.3	46	14	32	.2	14	130	E.18
DEC										
18...	18	1.1	1.2	39	11	26	.2	13	110	.15
JAN										
20...	16	1.0	1.0	120	14	26	.2	12	109	.15
FEB										
26...	17	1.1	1.0	27	15	25	.2	11	102	.14
MAR										
23...	25	1.3	1.2	24	12	63	.2	9.1	151	.21
APR										
27...	15	1.0	1.2	29	14	23	.2	12	100	.14
MAY										
26...	10	.7	1.2	30	1.9	14	.2	13	72	.10
JUN										
24...	12	.8	1.1	42	1.0	16	.2	16	89	.12
JUL										
23...	19	1.1	1.2	41	2.1	30	.2	14	110	.15
AUG										
10...	27	1.7	1.4	48	1.0	42	.2	14	135	.18
SEP										
01...	33	1.8	1.4	54	<5.0	56	.1	15	165	.22

06730300 COAL CREEK NEAR PLAINVIEW, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 09...	.14	--	.00	--	--	--	.010	90	20
NOV 21...	.09	--	.16	--	--	--	.040	50	4
DEC 18...	.10	--	.01	--	--	--	.040	50	7
JAN 20...	.04	--	.14	--	--	--	.020	30	9
FEB 26...	.06	--	.08	--	--	--	.040	40	6
MAR 23...	.16	--	.37	--	--	--	.020	40	8
APR 27...	.62	.18	.16	1.20	1.4	--	.010	50	10
MAY 26...	1.7	--	.31	--	--	--	.360	50	6
JUN 24...	.38	--	.07	--	--	--	.030	100	20
JUL 23...	.06	--	.03	--	--	--	.000	160	10
AUG 10...	.08	--	.13	--	--	.000	.020	40	27
SEP 01...	.04	--	.13	--	--	--	<.010	120	18

06730500 BOULDER CREEK AT MOUTH NEAR LONGMONT, CO

LOCATION.--Lat 40°09'08", long 105°00'52", in NW¼SW¼ sec.9, T.2 N., R.68 W., Weld County, Hydrologic Unit 10190005, on left bank 0.6 mi (1.0 km) upstream from mouth, 1.0 mi (1.6 km) downstream from State Highway 254, and 4.8 mi (7.7 km) southeast of Longmont.

DRAINAGE AREA.--439 mi^2 (1,137 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1927 to September 1949, May 1951 to September 1955, October 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,860 ft (1,481 m), from topographic map. Prior to June 10, 1939, at site 0.8 mi (1.3 km) upstream at different datum. June 10, 1939, to Sept. 30, 1949, at site 1.0 mi (1.6 km) upstream at different datum. May 1, 1951, to Sept. 30, 1955, at site 1.4 mi (2.3 km) upstream at different datum.

REMARKS.--Records good except those for winter period, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,410 ft^3/s (125 m^3/s) Sept. 3, 1938, gage height, 6.94 ft (2.115 m), site and datum then in use, from rating curve extended above 340 ft^3/s (9.63 m^3/s), on basis of slope-area measurement of peak flow; no flow at times many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 387 ft^3/s (11.0 m^3/s) at 0700 May 29, gage height, 2.74 ft (0.835 m); minimum daily, 0.26 ft^3/s (0.007 m^3/s) Sept. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	60	43	76	46	34	24	33	22	1.0	7.6	1.4
2	30	60	58	74	45	35	26	19	2.2	3.3	7.7	.48
3	14	60	67	65	41	36	47	14	24	82	6.2	.80
4	13	66	68	47	40	40	57	63	74	40	6.8	1.2
5	6.7	70	75	42	40	45	30	37	96	4.3	6.9	1.2
6	6.8	75	56	58	40	36	28	30	21	5.4	4.7	1.4
7	6.9	80	46	70	40	32	18	12	3.6	5.5	3.8	1.9
8	7.7	80	49	78	40	33	16	5.9	.80	8.7	1.9	.40
9	6.8	80	59	73	35	35	18	2.4	1.4	14	2.4	2.2
10	6.4	80	81	59	30	33	17	7.5	.92	7.5	4.9	4.6
11	4.1	80	84	46	30	33	14	5.1	.68	11	4.9	2.7
12	3.6	80	77	43	30	35	15	12	38	11	4.8	1.6
13	3.3	70	60	76	30	35	15	6.8	5.3	24	6.1	2.7
14	13	60	46	84	30	35	21	6.3	15	17	3.7	3.1
15	25	60	49	83	30	36	26	12	8.2	14	3.8	4.9
16	42	60	78	76	33	38	21	13	17	58	4.1	4.7
17	34	68	80	64	35	36	23	83	5.2	10	4.6	2.8
18	25	80	81	46	35	31	18	120	10	14	3.9	3.0
19	27	89	84	62	35	26	24	47	40	9.6	3.0	3.3
20	32	86	63	65	35	20	43	14	4.8	9.2	3.0	4.2
21	31	88	49	80	35	20	35	3.3	.92	7.0	2.2	3.8
22	48	57	48	80	35	21	31	2.2	1.2	3.9	2.7	3.0
23	46	55	78	80	40	23	52	2.4	2.2	5.6	1.9	3.0
24	46	80	79	70	45	26	55	3.9	1.6	7.7	.68	3.0
25	46	74	93	60	52	21	52	3.6	2.3	8.6	1.6	.26
26	48	92	81	60	41	18	62	1.7	2.7	8.0	1.4	.58
27	46	69	57	60	40	14	54	4.2	84	8.7	1.4	.92
28	45	50	45	60	38	20	31	98	49	8.2	1.6	1.9
29	46	56	46	60	---	34	39	298	15	6.9	1.4	2.8
30	48	43	70	55	---	26	47	147	.92	8.8	1.0	3.1
31	54	---	77	50	---	18	---	45	---	8.2	1.4	---
TOTAL	835.3	2108	2027	2002	1046	925	959	1152.3	549.94	431.1	112.08	70.94
MEAN	26.9	70.3	65.4	64.6	37.4	29.8	32.0	37.2	18.3	13.9	3.62	2.36
MAX	54	92	93	84	52	45	62	298	96	82	7.7	4.9
MIN	3.3	43	43	42	30	14	14	1.7	.68	1.0	.68	.26
AC-FT	1660	4180	4020	3970	2070	1830	1900	2290	1090	855	222	141

CAL YR 1980 TOTAL 55373.50 MEAN 151 MAX 1740 MIN 2.4 AC-FT 109800
WTR YR 1981 TOTAL 12218.66 MEAN 33.5 MAX 298 MIN .26 AC-FT 24240

NOTE.--NO GAGE-HEIGHT RECORD JAN. 21 TO FEB. 23.

06730500 BOULDER CREEK AT MOUTH NEAR LONGMONT, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 09...	1100	5.1	1120	1128	8.7	13.5	18.5	500	380
NOV 18...	1230	76	480	475	7.9	4.5	11.8	K300	480
DEC 15...	1245	44	840	847	8.1	5.5	12.4	120	K110
JAN 21...	1030	94	320	315	7.3	.5	11.7	K630	370
FEB 23...	1130	35	900	913	8.1	5.5	11.9	K57	160
MAR 23...	1050	21	1120	1090	8.7	13.0	11.2	56	110
APR 28...	1625	29	675	647	8.3	25.0	8.5	180	140
MAY 26...	1550	1.7	1000	1050	9.5	25.0	>20.0	660	K170
JUN 23...	1215	.83	1250	1220	9.0	26.0	18.8	K370	1700
JUL 20...	1420	11	825	785	9.0	28.0	16.2	56	130
AUG 12...	1510	5.5	1100	1020	8.9	22.5	17.3	140	650
SEP 01...	1540	2.1	1100	1050	8.9	25.0	19.0	K21	380

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 09...	410	68	58	100	2.2	3.6	290	280	26
NOV 18...	150	30	18	39	1.4	3.2	120	85	15
DEC 15...	270	52	33	77	2.1	6.4	210	160	28
JAN 21...	95	20	11	23	1.0	2.3	62	60	9.5
FEB 23...	270	53	34	82	2.2	6.1	230	210	34
MAR 23...	370	68	48	110	2.5	5.1	270	270	36
APR 28...	200	39	26	57	1.7	4.2	150	140	17
MAY 26...	420	69	60	94	2.0	2.5	230	350	23
JUN 23...	500	80	73	100	1.9	2.5	240	430	21
JUL 20...	300	56	40	57	1.4	2.8	180	220	21
AUG 12...	400	68	56	83	2.1	4.9	280	280	17
SEP 01...	390	56	60	93	2.4	2.8	210	360	15

06730500 BOULDER CREEK AT MOUTH NEAR LONGMONT, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 09...	.5	2.3	718	.98	9.9	1.1	.420	30	9
NOV 18...	.6	6.1	274	.37	56.3	1.1	.810	70	50
DEC 15...	.9	8.4	503	.68	59.8	2.4	--	60	90
JAN 21...	.4	3.6	179	.24	45.4	2.7	.790	100	60
FEB 23...	.9	7.2	575	.78	54.3	2.2	3.10	100	150
MAR 23...	1.1	6.1	718	.98	40.7	2.6	.020	70	110
APR 28...	.7	6.9	393	.53	30.8	2.7	1.60	70	100
MAY 26...	1.0	1.1	740	1.0	3.4	.20	.410	30	9
JUN 23...	1.0	5.5	857	1.1	1.9	.02	.300	20	4
JUL 20...	.8	2.3	511	.69	15.2	.60	.230	20	6
AUG 12...	1.0	3.4	683	.93	10.1	.27	.170	12	5
SEP 01...	1.1	5.2	720	.98	4.0	.25	.030	11	3

06731000 ST. VRAIN CREEK AT MOUTH, NEAR PLATTEVILLE, CO

LOCATION.--Lat 40°15'29", long 104°52'45", in SE¼NW¼ sec.3, T.3 N., R.67 W., Weld County, Hydrologic Unit 10190005, on right bank 140 ft (43 m) downstream from bridge on county road, 1.3 mi (2.1 km) upstream from mouth, and 4.2 mi (6.8 km) northwest of Platteville.

DRAINAGE AREA.--976 mi^2 (2,528 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1904 to December 1906, April to December 1915, March 1927 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 956: 1938(M). WSP 1440: 1934, 1935(M). WSP 1730: 1958, drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,740 ft (1,445 m), from topographic map. See WSP 1730 for history of changes prior to Apr. 25, 1960.

REMARKS.--Records good. Diversions above station for irrigation of about 177,000 acres (716 km^2). Flow partly regulated by many small reservoirs above station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--55 years (water years 1905-6, 1928-81), 207 ft^3/s (5.862 m^3/s), 150,000 acre-ft/yr (185 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft^3/s (320 m^3/s) Sept. 3, 1938, gage height, 8.93 ft (2.722 m), site and datum then in use, from rating curve extended above 4,700 ft^3/s (133 m^3/s); minimum daily, 12 ft^3/s (0.34 m^3/s) Apr. 23, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 491 ft^3/s (13.9 m^3/s) at 1400 May 29, gage height, 2.47 ft (0.753 m); minimum daily 47 ft^3/s (1.33 m^3/s) June 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	147	135	159	101	102	94	70	208	111	194	128
2	159	141	147	156	86	99	94	62	179	105	179	111
3	160	129	158	145	101	109	111	69	190	128	169	121
4	159	146	159	128	114	143	146	286	254	182	157	151
5	143	155	167	118	117	167	111	184	282	150	150	166
6	141	157	156	130	121	138	102	163	206	129	145	157
7	137	161	146	143	116	135	93	138	186	119	158	164
8	127	150	138	157	105	131	86	138	160	110	157	170
9	125	144	145	150	117	121	85	123	139	126	168	150
10	126	141	166	140	80	131	84	123	125	149	201	134
11	127	154	183	121	92	130	77	118	110	140	209	127
12	130	161	181	111	136	124	77	97	119	138	202	117
13	121	163	161	125	152	119	71	108	106	164	219	115
14	127	162	142	146	169	113	71	106	94	171	228	108
15	144	154	137	144	160	105	73	88	90	145	230	107
16	201	147	159	152	141	95	71	91	83	180	236	104
17	175	136	168	136	132	94	62	166	78	198	237	105
18	138	147	169	115	139	102	64	255	62	210	197	107
19	142	159	170	119	141	112	72	203	77	200	173	105
20	148	158	150	126	134	105	103	176	72	196	150	97
21	140	156	138	142	123	111	108	142	50	187	138	83
22	147	141	135	152	115	110	98	117	50	162	137	80
23	149	137	153	149	111	100	95	100	49	159	149	78
24	145	145	164	136	113	94	97	100	49	148	142	95
25	145	149	155	117	117	97	91	107	47	159	135	103
26	141	159	164	109	116	92	94	99	60	163	132	104
27	142	144	146	120	108	89	95	99	120	192	130	100
28	141	134	134	131	107	97	75	251	145	179	141	86
29	137	141	125	138	---	127	61	393	142	153	139	80
30	141	141	145	132	---	109	73	385	132	124	139	72
31	150	---	155	123	---	98	---	237	---	176	135	---
TOTAL	4457	4459	4751	4170	3364	3499	2634	4794	3664	4853	5276	3425
MEAN	144	149	153	135	120	113	87.8	155	122	157	170	114
MAX	201	163	183	159	169	167	146	393	282	210	237	170
MIN	121	129	125	109	80	89	61	62	47	105	130	72
AC-FT	8840	8840	9420	8270	6670	6940	5220	9510	7270	9630	10460	6790

CAL YR 1980 TOTAL 175900 MEAN 481 MAX 3930 MIN 121 AC-FT 348900
WTR YR 1981 TOTAL 49346 MEAN 135 MAX 393 MIN 47 AC-FT 97880

06731000 ST. VRAIN CREEK AT MOUTH, NEAR PLATTEVILLE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1955 to August 1956, September 1965 to September 1968, October 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT 23...	1100	143	1460	1370	8.1	7.0	9.8	500
NOV 19...	1220	179	1350	1347	7.8	3.5	10.1	480
DEC 15...	1050	139	1420	1560	7.7	2.5	9.0	540
JAN 21...	1125	122	1340	1380	7.9	1.5	10.8	530
FEB 19...	1020	139	1420	1410	7.9	5.5	9.0	510
MAR 25...	1045	96	1900	1750	8.1	7.5	10.7	680
APR 22...	0945	96	1480	1610	8.2	12.0	8.7	500
MAY 23...	1130	177	1260	1340	8.0	12.5	7.2	490
JUN 17...	1020	83	1350	1450	8.3	19.0	8.5	560
JUL 15...	1045	159	1480	1520	8.0	22.5	7.2	580
AUG 12...	1000	200	1800	1810	8.1	18.5	7.6	690
SEP 02...	1515	147	1650	1620	8.3	23.5	8.0	620

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 23...	91	66	120	2.3	5.5	240	470	30	1.1
NOV 19...	85	65	110	2.2	5.3	230	460	27	1.0
DEC 15...	96	73	130	2.4	4.8	260	520	33	1.1
JAN 21...	87	76	120	2.3	3.9	210	480	31	1.1
FEB 19...	91	69	120	2.3	4.2	220	510	29	.9
MAR 25...	110	98	160	2.7	4.8	260	700	38	1.1
APR 22...	95	65	120	2.3	5.0	210	480	35	1.0
MAY 20...	91	63	120	2.4	7.7	220	470	29	.8
JUN 17...	110	69	120	2.2	4.3	210	550	27	.9
JUL 15...	100	80	130	2.4	5.0	200	620	28	.9
AUG 12...	112	100	160	3.0	5.1	210	760	27	1.0
SEP 02...	113	83	140	2.8	5.2	250	630	33	1.1

06731000 ST. VRAIN CREEK AT MOUTH, NEAR PLATTEVILLE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT								
23...	7.3	949	1.2	306	3.2	.360	<10	80
NOV								
19...	8.8	917	1.2	443	3.4	.510	<10	110
DEC								
15...	9.1	1040	1.4	390	4.1	.770	10	150
JAN								
21...	8.8	954	1.3	314	3.6	.500	20	180
FEB								
19...	7.3	977	.75	307	3.0	.600	30	230
MAR								
25...	7.3	1240	1.7	334	3.3	.510	50	290
APR								
22...	6.4	947	1.2	245	2.9	.560	50	240
MAY								
20...	8.0	935	1.2	447	3.0	.530	40	180
JUN								
17...	5.0	1030	1.4	231	2.8	.280	10	80
JUL								
15...	6.4	1110	1.5	477	3.3	.180	10	30
AUG								
12...	6.6	1310	1.7	707	2.6	.800	<10	37
SEP								
02...	5.8	1180	1.6	341	3.7	.310	<10	61

06733000 BIG THOMPSON RIVER AT ESTES PARK, CO

LOCATION.--Lat 40°22'42", long 105°30'48", in NW¼NW¼ sec.30, T.5 N., R.72 W., Larimer County, Hydrologic Unit 10190006, on right bank in Estes Park, 600 ft (180 m) downstream from bridge on State Highways 7 and 66, 900 ft (270 m) downstream from Black Canyon Creek, and 0.3 mi (0.5 km) northwest of Estes powerplant. Station is upstream from Lake Estes.

DRAINAGE AREA.--137 mi^2 (486 km^2).

PERIOD OF RECORD.--October 1946 to current year. Prior to October 1947, published as Thompson River at Estes Park.

GAGE.--Water-stage recorder and Parshall flume with overflow weirs. Datum of gage is 7,492.5 ft (2,283.71 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to May 18, 1949, at site 740 ft (230 m) downstream at different datum. May 18, 1949, to Mar. 22, 1951, at site 60 ft (18 m) upstream at datum 1.2 ft (0.37 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Diversion from Colorado River basin to Big Thompson River basin above station through Alva B. Adams tunnel began Aug. 10, 1947, and ended Aug. 2, 1950. Small power developments and small diversions for irrigation and municipal use above station. Diversions above station from Wind River to Lake Estes (bypassing this station) were 212 acre-ft (261,400 m^3/yr) during current year. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--35 years, 125 ft^3/s (3.540 m^3/s), 90,560 acre-ft/yr (112 hm^3/yr), adjusted for inflow from Alva B. Adams tunnel Aug. 10, 1947, to Aug. 2, 1950.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,660 ft^3/s (47.0 m^3/s) June 18, 1949, gage height, 3.16 ft (0.963 m), site and datum then in use; maximum gage height, 6.89 ft (2.100 m) June 17, 1965; minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 843 ft^3/s (23.9 m^3/s) at 0130 June 8, gage height, 5.27 ft (1.606 m), only peak above base of 600 ft^3/s (17.0 m^3/s); minimum daily, 5.5 ft^3/s (0.16 m^3/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	26	17	12	6.7	9.0	10	121	374	195	98	68
2	37	26	17	13	6.3	8.9	11	148	377	233	100	62
3	37	24	17	12	7.0	8.9	13	209	412	437	92	68
4	34	25	18	13	6.5	8.9	11	167	461	387	89	66
5	33	24	17	13	6.0	8.4	10	126	461	283	85	64
6	34	24	18	13	6.5	9.8	10	118	502	236	80	64
7	33	24	17	13	7.0	9.3	12	95	632	207	80	66
8	31	24	18	12	6.0	9.3	11	74	641	207	78	65
9	31	23	16	11	7.0	9.3	12	64	614	215	89	69
10	30	22	16	11	6.0	9.3	15	58	551	270	87	77
11	30	22	15	6.7	5.5	9.8	17	61	487	227	83	87
12	30	22	14	6.3	7.0	9.8	17	59	437	242	82	75
13	34	27	13	7.1	8.0	9.8	19	56	368	233	86	68
14	35	23	13	5.9	8.5	9.8	18	52	311	207	80	64
15	42	21	13	6.3	8.5	9.8	21	56	230	187	80	64
16	40	20	13	6.5	8.5	9.3	22	67	188	175	87	60
17	34	23	14	6.5	8.5	9.8	25	66	170	159	104	57
18	35	23	14	6.5	8.5	8.4	31	64	170	148	99	52
19	35	23	13	6.5	9.0	8.9	42	54	160	145	86	49
20	36	22	12	7.0	8.9	10	45	75	182	138	80	46
21	36	20	12	6.5	8.0	10	43	85	204	126	76	47
22	35	18	12	6.5	8.5	9.8	41	74	222	118	77	48
23	30	18	13	7.1	8.4	9.8	34	68	210	111	80	45
24	24	18	11	7.1	9.8	9.8	37	75	197	107	73	45
25	30	19	12	7.1	11	9.5	57	88	213	109	78	47
26	30	17	13	6.7	11	11	82	174	215	113	72	47
27	30	15	13	7.1	11	11	107	272	252	128	70	43
28	26	15	12	7.1	10	12	89	311	334	108	67	40
29	28	17	12	7.1	---	10	99	443	263	96	62	36
30	28	17	12	6.7	---	9.8	112	353	216	90	64	36
31	28	---	11	6.7	---	9.5	---	383	---	91	64	---
TOTAL	1014	642	438	264.0	223.6	298.7	1073	4116	10054	5728	2528	1725
MEAN	32.7	21.4	14.1	8.52	7.99	9.64	35.8	133	335	185	81.5	57.5
MAX	42	27	18	13	11	12	112	443	641	437	104	87
MIN	24	15	11	5.9	5.5	8.4	10	52	160	90	62	36
AC-FT	2010	1270	869	524	444	592	2130	8160	19940	11360	5010	3420

CAL YR 1980 TOTAL 60078.0 MEAN 164 MAX 1300 MIN 11 AC-FT 119200
WTR YR 1981 TOTAL 28104.3 MEAN 77.0 MAX 641 MIN 5.5 AC-FT 55740

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO

LOCATION.--Lat 40°22'30", long 105°29'13", in SE¼NW¼ sec.29, T.5 N., R.72 W., Larimer County, Hydrologic Unit 10190006, at tunnel entrance at south end of Olympus Dam on Lake Estes, 1.9 mi (3.0 km) east of Estes Park.

PERIOD OF RECORD.--September 1970 to current year.

REMARKS.--Tunnel is part of Colorado-Big Thompson project. Field data collected prior to 1974 water year available in district office. Records of discharge are estimated values.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 07...	1515	200	58	45	7.7	12.0	8.2	--	--	17	5.0
NOV 19...	1540	498	42	46	7.8	4.5	8.0	--	--	18	5.4
DEC 17...	1510	400	50	53	7.2	2.5	10.0	--	--	19	5.8
JAN 22...	0915	550	50	51	7.1	2.5	9.5	--	--	20	6.0
FEB 25...	1110	554	53	56	7.3	2.0	10.0	--	--	22	6.7
MAR 25...	1040	551	57	60	7.1	2.5	11.2	--	--	23	6.9
APR 28...	1045	575	56	48	7.0	7.0	9.1	1400	120	19	5.9
MAY 28...	1230	550	43	42	7.3	10.5	8.1	820	K100	15	4.5
JUN 24...	1425	577	28	26	8.2	13.0	8.4	1400	58	11	3.1
JUL 22...	0915	571	36	37	7.6	17.0	7.4	540	--	12	3.8
AUG 11...	0840	572	47	46	7.1	15.5	7.2	830	290	17	5.4
SEP 03...	0830	570	51	48	7.4	14.5	7.5	870	300	20	5.9

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 07...	1.0	1.7	.2	.6	25	1.9	.6	.2	3.9	44	30
NOV 19...	1.0	1.7	.2	.6	19	2.4	.3	.2	4.7	--	28
DEC 17...	1.1	2.4	.2	.7	30	1.4	.5	.2	5.1	--	36
JAN 22...	1.3	2.5	.2	.8	23	1.8	.5	.1	4.5	--	32
FEB 25...	1.2	2.4	.2	.8	20	1.3	.3	.1	3.5	--	29
MAR 25...	1.4	2.7	.2	.8	22	3.7	.2	.1	3.6	--	33
APR 28...	1.1	2.6	.3	.8	19	.8	.2	.2	3.7	--	27
MAY 28...	.9	2.2	.2	.6	19	1.3	.3	.1	2.6	--	24
JUN 24...	.7	1.4	.2	.5	10	1.0	.3	.1	3.1	--	16
JUL 22...	.7	2.0	.2	.4	15	2.0	.3	.1	3.0	--	21
AUG 11...	.9	2.1	.2	.6	22	1.0	<.1	.1	3.2	--	--
SEP 03...	1.3	2.3	.2	.6	17	<5.0	.6	.1	3.2	--	29

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)
OCT											
07...	.06	23.8	.00	.000	.00	.060	.030	.020	50	<1	--
NOV											
19...	.04	37.6	.12	.000	.12	.070	.350	.040	50	<1	--
DEC											
17...	.05	38.9	.10	.020	.12	.060	.030	.040	50	2	--
JAN											
22...	.04	47.5	.10	.000	.10	.090	.030	.040	40	1	--
FEB											
25...	.04	43.4	.04	.000	.04	.050	.060	.030	20	2	--
MAR											
25...	.04	49.1	.00	.000	.00	.100	.030	.020	20	<1	--
APR											
28...	.04	41.9	--	--	.04	.010	.020	.010	50	2	--
MAY											
28...	.03	35.6	.01	.000	.01	.100	.020	.020	90	<1	12000
JUN											
24...	.02	24.9	.04	.000	.04	.090	.030	.010	70	3	3700
JUL											
22...	.03	32.4	.01	.010	.02	.190	.030	.010	40	1	5500
AUG											
11...	--	--	.09	.020	.11	.120	.040	.020	45	2	7300
SEP											
03...	.04	44.6	--	<.020	.13	.230	.050	<.010	39	1	8800

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE	APR 28.81		MAY 28.81		JUN 24.81		JUL 22.81		AUG 11.81		SEP 3.81	
TIME	1945		1230		1425		0915		0840		0830	
TOTAL CELLS/ML	8900		12000		3700		5500		7300		8800	
DIVERSITY: DIVISION	0.7		0.9		1.4		1.1		1.2		1.5	
.CLASS	0.7		0.9		1.4		1.1		1.2		1.5	
..ORDER	1.0		1.4		1.9		1.7		1.8		2.0	
...FAMILY	1.0		1.7		2.6		1.7		2.0		2.3	
....GENUS	1.8		2.2		2.9		1.7		2.2		2.6	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...CHARACIACEAE												
....SCHROEDERIA	--	-	--	-	--	-	--	-	--	-	*	0
...COELASTRACEAE												
....COELASTRUM	--	-	--	-	--	-	--	-	--	-	250	3
...MICRACTINIACEAE												
....GOLENKINIA	--	-	--	-	--	-	--	-	--	-	*	0
....MICRACTINIUM	--	-	350	3	140	4	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	--	-	140	1	65	2	*	0	99	1	160	2
....CHODATELLA	--	-	250	2	78	2	*	0	--	-	94	1
....DICTYOSPHAERIUM	--	-	--	-	52	1	--	-	--	-	130	1
....OOCYSTIS	--	-	--	-	--	-	--	-	--	-	94	1
...SCENEDESMACEAE												
....SCENEDESMUS	87	1	350	3	180	5	78	1	330	5	380	4
....TETRASTRUM	170	2	--	-	--	-	--	-	--	-	130	1
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	--	-	*	0	*	0	*	0	--	-	*	0
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	--	-	740	6	78	2	--	-	99	1	160	2
....MELOSIRA	3800#	43	7300#	63	990#	26	1200#	21	1700#	23	2600#	30
....STEPHANODISCUS	3300#	38	--	-	--	-	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	--	-	180	2	--	-	--	-	360	5	--	-
...DIATOMACEAE												
....DIATOMA	--	-	--	-	--	-	*	0	--	-	--	-
...FRAGILARIACEAE												
....ASTERIONELLA	--	-	210	2	--	-	--	-	66	1	--	-
....FRAGILARIA	--	-	--	-	140	4	--	-	--	-	*	0
....SYNEDRA	300	3	420	4	140	4	780	14	1900#	26	1400#	16
...GOMPHONEMATACEAE												
....GOMPHONEMA	--	-	*	0	--	-	--	-	--	-	--	-
...NAVICULACEAE												
....NAVICULA	--	-	--	-	26	1	--	-	--	-	--	-
...NITZSCHIACEAE												
....NITZSCHIA	130	1	390	3	220	6	39	1	--	-	94	1
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....AGMENELLUM	--	-	280	2	--	-	--	-	--	-	--	-
....ANACYSTIS	1000	12	920	8	39	1	210	4	--	-	--	-
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	--	-	1300#	34	3200#	58	2700#	37	3100#	36
...OSCILLATORIACEAE												
....OSCILLATORIA	--	-	--	-	310	8	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....TRACHELOMONAS	--	-	--	-	--	-	--	-	--	-	63	1
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..PERIDINIALES												
...PERIDINIACEAE												
....PERIDINIUM	--	-	--	-	--	-	--	-	--	-	*	0

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06735500 BIG THOMPSON RIVER NEAR ESTES PARK, CO

LOCATION.--Lat 40°22'35", long 105°29'06", in NE¼NE¼ sec.29, T.5 N., R.72 W., Larimer County, Hydrologic Unit 10190006, on right bank 100 ft (30 m) upstream from Dry Gulch, 600 ft (180 m) downstream from Olympus Dam, and 2.0 mi (3.2 km) east of Estes Park.

DRAINAGE AREA.--155 mi^2 (401 km^2). Area at site used Jan. 29, 1934, to Mar. 21, 1951, 162 mi^2 (420 km^2).

PERIOD OF RECORD.--July 1930 to current year. Prior to October 1933, monthly discharges only, published in WSP 1310. Published as Thompson River near Estes Park 1934-47.

REVISED RECORDS.--WDR CO-76-1: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 7,422.5 ft (2,262.38 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to Jan. 29, 1934, nonrecording gage on highway bridge 1.5 mi (2.4 km) downstream at different datum. Jan. 29, 1934, to Mar. 21, 1951, water-stage recorder at site 0.4 mi (0.6 km) downstream at datum 10.5 ft (3.20 m) lower.

REMARKS.--Records excellent. Low flow regulated by Lake Estes since Nov. 30, 1948. Diversion from Colorado River basin to Big Thompson River basin above station through Alva B. Adams tunnel began Aug. 10, 1947 (see station 09013000 in Volume 2 for diversion during current year); since Apr. 15, 1953, this imported water has been diverted from Lake Estes through Olympus tunnel bypassing this station. Since May 17, 1955, part of the natural flow of Big Thompson River (26,800 acre-ft or 33.0 hm^3 during current year) has also been diverted through Olympus tunnel and returned to the river below the station at mouth of canyon, near Drake. Small power developments and small diversions for irrigation and municipal use above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 2,800 ft^3/s (79.3 m^3/s) June 20, 1933, gage height, 4.0 ft (1.22 m), site and datum then in use, from rating curve extended above 460 ft^3/s (13 m^3/s); no flow Aug. 1 to Sept. 30, 1976 (all flow into Lake Estes diverted through Olympus tunnel after flood of July 31, 1976).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 115 ft^3/s (3.26 m^3/s) at 1330 June 29, gage height, 1.54 ft (0.469 m); minimum daily, 4.1 ft^3/s (0.12 m^3/s) Feb. 11-24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	27	17	10	6.7	7.5	8.4	74	100	100	75	49
2	39	26	17	10	6.7	8.0	8.4	76	100	101	75	49
3	39	25	16	9.8	6.7	8.0	8.4	76	100	101	75	50
4	38	23	16	9.8	6.7	8.0	9.3	76	100	101	75	51
5	35	24	17	9.8	6.3	8.4	9.3	76	99	101	75	51
6	35	24	17	10	5.5	8.9	8.9	75	100	100	75	51
7	36	24	16	9.8	5.5	8.9	9.3	75	99	100	72	50
8	34	24	16	12	5.5	8.9	9.8	71	100	101	50	51
9	32	23	16	12	5.1	8.9	9.8	49	100	100	50	52
10	33	22	16	12	5.1	8.9	9.8	50	100	100	50	52
11	32	22	14	12	4.1	8.9	9.3	51	100	99	50	51
12	33	22	15	12	4.1	9.8	9.3	51	100	100	50	51
13	32	22	14	12	4.1	10	9.3	50	100	100	50	51
14	34	26	14	11	4.1	10	21	50	100	101	51	51
15	35	23	14	5.9	4.1	10	24	50	100	101	50	50
16	42	24	13	5.1	4.1	10	24	50	100	100	50	51
17	40	26	13	4.8	4.1	10	24	50	100	100	50	50
18	34	26	11	4.8	4.1	10	25	49	100	100	51	51
19	36	22	11	4.8	4.1	10	33	49	100	100	50	51
20	36	22	11	4.8	4.1	8.9	44	50	99	100	49	51
21	36	22	11	5.5	4.1	8.4	47	50	99	100	49	48
22	35	22	11	7.1	4.1	8.4	45	50	100	100	49	48
23	33	22	12	6.7	4.1	8.4	47	50	100	99	49	50
24	30	22	12	6.7	4.1	8.4	37	50	100	101	49	47
25	27	22	10	6.7	5.9	8.4	40	51	101	100	50	45
26	31	21	9.3	6.7	8.0	8.4	54	52	100	100	49	48
27	30	18	10	6.7	7.5	8.4	48	78	100	100	49	46
28	30	17	9.8	6.7	7.5	8.4	48	99	100	100	49	43
29	26	17	9.8	6.7	---	8.4	50	100	100	99	50	39
30	33	17	9.8	6.7	---	8.4	49	100	100	75	49	37
31	29	---	9.8	6.7	---	8.4	---	100	---	75	50	---
TOTAL	1054	677	408.5	255.3	146.1	274.4	779.3	1978	2997	3055	1715	1465
MEAN	34.0	22.6	13.2	8.24	5.22	8.85	26.0	63.8	99.9	98.5	55.3	48.8
MAX	42	27	17	12	8.0	10	54	100	101	101	75	52
MIN	26	17	9.3	4.8	4.1	7.5	8.4	49	99	75	49	37
AC-FT	2090	1340	810	506	290	544	1550	3920	5940	6060	3400	2910

CAL YR 1980 TOTAL 28008.1 MEAN 76.5 MAX 709 MIN 8.6 AC-FT 55550
WTR YR 1981 TOTAL 14804.6 MEAN 40.6 MAX 101 MIN 4.1 AC-FT 29360

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO

LOCATION.--Lat 40°36'00", long 105°10'06", in NW¼SW¼ sec.6, T.7 N., R.69 W., Larimer County, Hydrologic Unit 10190007, on right bank near abutment of Horsetooth Dam on tributaries to Cache la Poudre River, 4.8 mi (7.7 km) west of city hall in Fort Collins. Water-quality sampling site in middle of reservoir at Soldier Canyon Dam.

WATER-CONTENTS RECORDS

PERIOD OF RECORD.--April 1951 to current year.

GAGE.--Nonrecording gage read at irregular intervals from 1 to 10 days. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir is formed by earth and rockfill dike and dams closing openings in subsequent valleys between hogbacks; storage began Jan. 10, 1951; dams completed July 21, 1949. Usable capacity, 143,500 acre-ft (177 hm³) above elevations 5,320 ft (1,621.5 m), invert of channel from Spring Canyon Dam, 5,310 ft (1,618.5 m), invert of channel from Dixon Canyon Dam, 5,270 ft (1,606.3 m), trashrack sill of outlet at Soldier Canyon Dam, and below maximum water-surface elevation, 5,430 ft (1,655.1 m), 6 ft (1.8 m) below crest of Satanka Dike. Dead storage, 8,270 acre-ft (10.2 hm³). Figures given represent usable contents. Water is diverted from Colorado River basin through Alva B. Adams tunnel for supplemental irrigation supply to Cache la Poudre River.

COOPERATION.--Records furnished by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 141,600 acre-ft (175 hm³) July 2, 1970, elevation, 5,429.02 ft (1,654.765 m); minimum observed, 9 acre-ft (11,100 m³) Nov. 16-30, 1977, elevation, 5,270.25 ft (1,606.372 m); no storage prior to Apr. 18, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 129,700 acre-ft (160 hm³) May 7-9, elevation, 5,422.50 ft (1,652.778 m); minimum observed, 53,110 acre-ft (65.5 hm³) Sept. 30, elevation, 5,370.62 ft (1,636.965 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	5,387.68	74,790	-
Oct. 31	5,380.20	64,880	-9,910
Nov. 30	5,384.20	70,100	+5,220
Dec. 31	5,387.70	74,820	+4,720
CAL YR 1980			-27,180
Jan. 31	5,398.32	90,010	+15,190
Feb. 28	5,409.10	106,800	+16,790
Mar. 31	5,417.62	121,100	+14,300
Apr. 30	5,421.72	128,300	+7,200
May 31	5,421.60	128,000	-300
June 30	5,416.02	118,300	-9,700
July 31	5,397.48	88,760	-29,540
Aug. 31	5,378.72	62,990	-25,770
Sept. 30	5,370.62	53,110	-9,880
WTR YR 1981			21,680

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1969 to current year.

REMARKS.--Samples collected from surface in middle of reservoir at Soldier Canyon Dam. Reservoir storage represents usable contents.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMPLING DEPTH (FT)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
APR				
09...	1205	.10	7.0	10.4
09...	1206	2.00	6.0	11.1
09...	1207	5.00	6.0	11.4
09...	1208	10.0	6.0	11.6
09...	1209	20.0	5.5	12.6
09...	1210	25.0	5.5	12.9
09...	1211	30.0	5.5	13.0
09...	1212	40.0	5.5	13.2
09...	1213	50.0	5.5	12.2
09...	1214	60.0	5.0	11.8
09...	1215	70.0	5.0	11.6
09...	1216	75.0	5.0	11.4
09...	1217	80.0	5.0	11.4
09...	1218	90.0	5.0	11.2
09...	1219	100	5.0	10.9
09...	1220	110	5.0	10.7
MAY				
14...	1045	.10	11.0	9.4
14...	1046	5.00	11.0	9.9
14...	1047	10.0	11.0	10.2
14...	1048	20.0	11.0	10.6
14...	1049	25.0	11.0	10.6
14...	1050	30.0	11.0	10.8
14...	1051	40.0	11.0	11.0
14...	1052	50.0	10.0	11.2
14...	1053	60.0	8.5	7.6
14...	1054	70.0	7.5	7.0
14...	1055	75.0	7.0	6.6
14...	1056	80.0	7.0	6.4
14...	1057	90.0	6.5	5.8
14...	1058	100	6.5	5.2
14...	1059	110	6.5	4.3
14...	1100	120	6.0	4.0
14...	1101	125	6.0	3.8
14...	1102	130	6.0	3.5
JUN				
04...	1150	.10	16.0	8.5
04...	1151	5.00	16.0	8.6
04...	1152	10.0	16.0	9.2
04...	1153	20.0	13.5	11.4
04...	1154	25.0	13.0	11.7
04...	1155	30.0	12.0	11.7
04...	1156	40.0	10.5	9.5
04...	1157	50.0	9.5	7.4
04...	1158	60.0	8.0	6.4
04...	1159	70.0	7.5	5.5
JUL				
09...	1040	.10	21.0	7.2
09...	1045	.10	21.0	7.2
09...	1046	5.00	20.5	7.4
09...	1047	10.0	20.0	7.1
09...	1048	20.0	19.5	3.4
09...	1049	25.0	17.0	3.0
09...	1050	30.0	15.0	2.4
09...	1051	40.0	11.0	2.3
09...	1052	50.0	10.0	2.1
09...	1053	60.0	9.0	2.1
09...	1054	70.0	9.0	2.0
09...	1055	75.0	8.5	1.9
09...	1056	80.0	8.5	1.8
09...	1057	90.0	8.0	1.7
09...	1058	100	8.0	1.6
09...	1059	110	7.5	1.6
09...	1100	120	7.0	1.6
AUG				
05...	1055	.10	24.0	6.8
05...	1100	.10	24.0	6.8
05...	1101	5.00	23.0	6.8
05...	1102	10.0	22.0	6.6
05...	1103	20.0	21.0	6.3
05...	1104	25.0	21.0	6.1
05...	1105	30.0	20.0	6.0
05...	1106	40.0	19.0	5.7
05...	1107	50.0	17.0	5.6
05...	1108	60.0	14.0	5.9
05...	1109	70.0	12.0	6.0
05...	1110	75.0	11.0	5.8
05...	1111	80.0	10.5	5.5
05...	1112	90.0	9.5	5.0
05...	1113	100	9.0	4.2
05...	1114	110	8.0	3.2
05...	1115	120	8.0	2.7
05...	1116	125	7.5	2.6
05...	1117	130	7.5	2.4
SEP				
10...	1025	.10	20.0	7.7
10...	1030	.10	20.0	7.7
10...	1031	5.00	19.5	7.3
10...	1032	10.0	19.5	6.8
10...	1033	20.0	19.0	--
10...	1034	25.0	19.0	--
10...	1035	30.0	19.0	--
10...	1036	40.0	19.0	--
10...	1037	50.0	18.5	--
10...	1038	60.0	18.0	--
10...	1039	70.0	17.0	--
10...	1040	75.0	5.5	--
10...	1041	80.0	15.0	--
10...	1042	90.0	13.0	--
10...	1043	100	11.5	--
10...	1044	110	10.5	--
10...	1045	120	10.0	--

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TRANS-PAR-ENCY (SECCHI DISK) (IN)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
APR 09...	1205	80	81	8.3	60.6	<1	<1	32	10	1.8	2.9	.2
MAY 14...	1045	85	77	8.1	108	<1	<1	32	10	1.7	3.0	.2
JUN 04...	1150	83	79	7.8	133	<1	<1	34	11	1.7	3.3	.2
JUL 09...	1040	84	79	7.7	60.0	<1	<1	35	11	1.8	3.1	.2
AUG 05...	1055	86	81	7.5	30.0	K2	<1	32	10	1.6	2.5	.2
SEP 10...	1025	80	79	7.3	53.0	K1	<1	--	--	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)
APR 09...	.9	33	1.3	.6	.2	4.9	--	44	.06	--	.23	--
MAY 14...	.7	34	1.2	.7	.1	4.6	--	53	.07	--	2.30	--
JUN 04...	.8	33	1.5	.6	.2	4.7	52	45	.07	--	.20	--
JUL 09...	.7	34	.7	.3	.1	4.3	52	43	.07	--	.19	--
AUG 05...	.8	40	<1.0	.4	.5	4.0	48	--	.07	--	.19	--
SEP 10...	--	--	--	--	--	--	49	--	.07	.11	.05	.000

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)
APR 09...	.030	--	.26	--	.080	--	.57	--	.020	.020	--
MAY 14...	.010	.15	2.3	.160	.060	.72	.88	1.0	.160	.140	--
JUN 04...	.000	--	.20	--	.000	--	.75	--	.020	.020	--
JUL 09...	<.010	--	.16	.090	.090	.79	.88	--	.040	.030	--
AUG 05...	.020	.25	.21	.150	.140	.72	.87	1.1	.040	.020	--
SEP 10...	.010	.11	.06	.080	--	--	--	--	.030	--	.020

K BASED ON NON-IDEAL COLONY COUNT.

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)
APR 09...	190	--	--	0	2	--	9	--	60	0
MAY 14...	--	0	100	0	0	0	9	260	60	1
JUN 04...	160	--	--	0	2	--	9	--	60	1
JUL 09...	--	0	0	1	10	0	9	210	30	6
AUG 05...	680	--	--	1	5	--	7	650	15	5

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	POTASSIUM 40 DISSOLVED (PCI/L AS K40)
APR 09...	--	9	--	--	--	--	0	60	.70
MAY 14...	0	4	.0	0	4	0	0	40	.50
JUN 04...	--	4	--	--	--	--	0	10	.60
JUL 09...	10	5	.1	2	1	0	0	10	.50
AUG 05...	--	5	--	--	--	--	0	20	--

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)
APR										
09...	--	--	--	--	--	--	--	--	--	--
MAY										
14...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUN										
04...	--	--	--	--	--	--	--	--	--	--
JUL										
09...	--	--	--	--	--	--	--	--	--	--
AUG										
05...	--	--	--	--	--	--	--	--	--	--
SEP										
10...	--	--	--	--	--	--	--	--	--	--

DATE	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)
APR										
09...	--	--	--	--	--	--	--	--	--	--
MAY										
14...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUN										
04...	--	--	--	--	--	--	--	--	--	--
JUL										
09...	--	--	--	--	--	--	--	--	--	--
AUG										
05...	--	--	--	--	--	--	--	--	--	--
SEP										
10...	--	--	--	--	--	--	--	--	--	--

DATE	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	ALGAL GROWTH POTEN-TIAL, BOTTLE TEST (MG/L)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)
APR										
09...	--	--	--	--	--	--	--	--	.5	3000
MAY										
14...	.00	.00	.00	.00	.02	.00	.00	.00	.7	39
JUN										
04...	--	--	--	--	--	--	--	--	--	550
JUL										
09...	--	--	--	--	--	--	--	--	--	130
AUG										
05...	--	--	--	--	--	--	--	--	.3	43
SEP										
10...	--	--	--	--	--	--	--	--	.4	--

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE	APR 9,81		MAY 14,81		JUN 4,81		JUL 9,81		AUG 5,81		SEP 10,81	
TIME	1205		1045		1150		1045		1100		1030	
TOTAL CELLS/ML	3000		39		550		130		43		14	
DIVERSITY: DIVISION	1.1		0.9		0.7		1.5		0.0		0.0	
.CLASS	1.1		0.9		0.7		1.5		0.0		0.0	
..ORDER	1.2		0.9		0.8		1.5		0.0		0.0	
...FAMILY	1.4		0.9		0.9		1.7		0.9		0.0	
....GENUS	1.4		0.9		0.9		1.7		0.9		0.0	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...CHARACIACEAE												
....SCHROEDERIA	--	-	--	-	--	-	13	10	--	-	--	-
...COELASTRACEAE												
....COELASTRUM	230	8	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	92	3	--	-	--	-	--	-	14#	33	--	-
....OOCYSTIS	--	-	--	-	--	-	13	10	--	-	--	-
....SELENASTRUM	--	-	--	-	26	5	--	-	--	-	--	-
...SCENEDESMACEAE												
....SCENEDESMUS	46	2	--	-	64	12	--	-	29#	67	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	23	1	13#	33	13	2	--	-	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	--	-	--	-	--	-	52#	40	--	-	--	-
....STEPHANODISCUS	2200#	74	--	-	--	-	--	-	--	-	--	-
..PENNALES												
...FRAGILARIACEAE												
....FRAGILARIA	--	-	--	-	--	-	--	-	--	-	14#	100
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	46	2	26#	67	450#	81	--	-	--	-	--	-
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	--	-	--	-	52#	40	--	-	--	-
....APHANIZOMENON	340	12	--	-	--	-	--	-	--	-	--	-

06738000 BIG THOMPSON RIVER AT MOUTH OF CANYON, NEAR DRAKE, CO

LOCATION.--Lat 40°25'18", long 105°13'34", in SW¼SW¼ sec.3, T.5 N., R.70 W., Larimer County, Hydrologic Unit 10190006, on right bank at mouth of canyon, 400 ft (120 m) upstream from Handy Ditch diversion dam, and 6.0 mi (9.7 km) east of Drake.

DRAINAGE AREA.--305 mi² (790 km²).

PERIOD OF RECORD.--August 1887 to September 1892, May 1895 to September 1903, October 1926 to September 1933 (no winter records prior to October 1932, except water years 1927-28), April 1938 to September 1949, March 1951 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as Big Thompson Creek at Arkins 1887-92, Big Thompson Creek near Arkins 1901-3, and as Thompson River at mouth of canyon, near Drake 1927-30, 1938-47.

REVISED RECORDS.--WSP 1310: 1891, 1927. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,305.47 ft (1,617.107 m), National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Oct. 1, 1949, to Sept. 18, 1977, at present site, datum 8.00 ft (2.438 m) lower, Sept. 19, 1977, to July 27, 1980, at present site, datum 7.37 ft (2.246 m) lower, published incorrectly at datum 8.00 ft (2.438 m) lower. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1949.

REMARKS.--Records good. Diversions above station for irrigation. Diversions from Colorado River basin to Big Thompson River basin above station through Alva B. Adams tunnel began Aug. 10, 1947 (see station 09013000 in Volume 2 for diversion during current year); since Apr. 15, 1953, this imported water has been diverted from Lake Estes through Olympus tunnel bypassing this station. Part of the natural flow of the Big Thompson River has also been diverted through Olympus tunnel since May 17, 1955, 26,800 acre-ft/yr (33.0 hm³/yr) diverted during current year, and Dille tunnel since Apr. 20, 1959, 5,110 acre-ft (6.3 hm³) during current year, and returned to the river just below this station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharc , 31,200 ft³/s (884 m³/s) July 31, 1976, gage height, 19.86 ft (6.053 m), from floodmarks, from slope-area measurements of peak flow; no flow at times in 1976 (all flow above station diverted through Olympus and Dille tunnels after flood of July 31, 1976), 1979-80 (all flow above station diverted through Dille tunnel).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 419 ft³/s (11.9 m³/s) at 2200 July 12, gage height, 2.86 ft (0.872 m); no flow Nov. 12-25 (all flow above station diverted through Dille tunnel).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	39	26	16	12	16	18	77	72	134	109	78
2	32	38	22	19	12	18	19	86	73	102	105	77
3	31	36	25	16	14	18	24	89	75	159	105	84
4	31	34	26	17	13	18	20	91	105	165	104	80
5	31	34	25	16	12	15	18	89	120	154	102	80
6	31	36	20	16	13	20	20	91	122	146	104	81
7	30	34	19	18	14	19	20	88	168	136	102	84
8	30	34	18	15	12	15	21	86	190	118	81	81
9	30	34	19	16	13	19	21	68	184	100	81	81
10	42	26	22	16	8.0	21	22	62	187	104	81	81
11	45	.98	28	15	9.0	20	23	64	167	131	78	80
12	46	.00	24	14	10	20	23	64	174	159	78	78
13	44	.00	18	15	11	20	28	65	144	204	78	77
14	44	.00	17	15	12	20	29	64	149	134	75	77
15	50	.00	23	12	13	21	36	64	149	124	75	77
16	61	.00	29	10	14	21	37	68	144	134	80	77
17	55	.00	27	9.5	15	21	38	73	139	118	88	75
18	50	.00	23	10	16	22	39	72	102	124	88	75
19	48	.00	12	12	16	20	48	70	89	113	81	74
20	49	.00	10	14	16	20	60	75	91	115	83	74
21	49	.00	23	13	14	19	58	73	94	118	86	72
22	49	.00	29	14	13	18	60	70	91	115	91	73
23	44	.00	22	15	14	19	57	70	92	118	86	73
24	38	.00	20	16	14	20	51	73	94	120	84	73
25	38	.00	20	15	14	19	51	75	94	122	86	70
26	40	9.0	23	13	16	20	61	83	131	127	83	69
27	26	30	20	14	14	20	65	102	146	124	84	69
28	19	29	19	14	16	20	61	92	149	118	83	65
29	19	28	18	14	---	18	62	77	144	118	80	61
30	19	28	18	13	---	19	62	92	139	109	78	58
31	35	---	18	13	---	16	---	96	---	105	78	---
TOTAL	1189	469.98	663	445.5	370.0	592	1152	2409	3838	3968	2697	2254
MEAN	38.4	15.7	21.4	14.4	13.2	19.1	38.4	77.7	128	128	87.0	75.1
MAX	61	39	29	19	16	22	65	102	190	204	109	84
MIN	19	.00	10	9.5	8.0	15	18	62	72	100	75	58
AC-FT	2360	932	1320	884	734	1170	2280	4780	7610	7870	5350	4470

CAL YR 1980 TOTAL 66669.98 MEAN 182 MAX 1770 MIN .00 AC-FT 132200
WTR YR 1981 TOTAL 20047.48 MEAN 54.9 MAX 204 MIN .00 AC-FT 39760

06741480 BIG THOMPSON RIVER ABOVE LOVELAND, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°24'02", long 105°07'20", in SW¼NE¼ sec.16, T.5 N., R.69 W., Larimer County, Hydrologic Unit 10190006, at Wilson Avenue bridge 9 mi (14.5 km) upstream from Greeley-Loveland Ditch and 2.5 mi (4.0 km) west of Loveland.

DRAINAGE AREA.--525 mi² (1,360 km²), approximately.

PERIOD OF RECORD.--June 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT									
07...	1255	19	761	761	8.0	16.0	9.5	370	110
NOV									
19...	1300	7.5	850	805	8.1	7.0	11.5	380	110
DEC									
16...	0930	4.1	1150	1100	7.6	3.0	10.6	580	160
JAN									
23...	0905	3.0	1230	1240	7.6	2.0	10.4	620	180
FEB									
26...	0900	1.0	1600	1570	7.8	2.0	9.5	830	230
MAR									
26...	0915	2.1	1620	1390	7.7	6.0	8.9	760	220
APR									
29...	0905	3.2	1600	1330	7.8	14.0	9.1	730	210
MAY									
27...	0903	7.5	850	863	7.7	17.0	8.2	420	120
JUN									
22...	1500	155	350	322	8.2	20.5	7.6	150	39
JUL									
21...	1050	147	350	309	8.1	22.5	7.4	160	44
AUG									
11...	1315	123	370	300	8.2	20.5	7.0	150	42
SEP									
02...	0920	116	170	165	7.4	14.0	8.5	60	20

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT									
07...	23	19	.4	1.9	130	280	9.2	.2	6.3
NOV									
19...	26	23	.5	2.2	130	270	8.7	.4	7.0
DEC									
16...	49	26	.5	3.2	170	440	12	.4	8.5
JAN									
23...	45	37	.6	4.3	170	530	13	.5	9.5
FEB									
26...	61	60	.7	3.8	180	670	25	.4	8.5
MAR									
26...	51	35	.6	3.1	170	610	14	.4	8.3
APR									
29...	49	35	.6	3.2	160	560	21	.4	8.7
MAY									
27...	26	23	.5	2.2	130	300	8.0	.3	6.3
JUN									
22...	12	9.8	.4	1.0	57	94	2.0	.2	4.3
JUL									
21...	13	9.7	.3	1.0	61	110	2.0	.2	4.6
AUG									
11...	11	9.3	.4	1.2	71	98	2.0	.2	4.7
SEP									
02...	4.4	4.5	.3	.9	38	37	2.0	.1	3.9

06741480 BIG THOMPSON RIVER ABOVE LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)
OCT									
07...	513	.70	26.9	1.27	.010	1.2	.060	.99	.030
NOV									
13...	532	.72	10.9	1.40	.010	1.4	.100	13.0	.050
DEC									
10...	811	1.1	6.9	2.30	.020	2.3	.160	.92	.030
JAN									
23...	1120	.16	4.9	2.90	.020	2.9	.130	1.10	.020
FEB									
24...	1190	1.6	3.2	6.40	.030	6.4	.150	1.10	.040
MAR									
24...	1000	1.4	4.4	3.60	.210	3.6	.060	1.30	.010
APR									
27...	847	1.2	4.6	3.60	.020	3.6	.140	1.90	.020
MAY									
21...	576	.76	11.6	1.60	.020	1.6	.120	1.20	.030
JUN									
22...	197	.27	76.6	.16	.017	.19	.170	.43	.010
JUL									
21...	222	.30	86.1	.05	.026	.11	.260	.67	.010
AUG									
11...	213	.29	71.2	.29	.040	.33	.190	.40	.020
SEP									
16...	97	.13	31.4	.32	.020	.34	.010	.59	<.010

DATE	TIME	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
OCT										
07...	1255	--	1	200	4	0	0	27	420	30
NOV										
13...	1300	110	--	--	4	4	--	6	--	20
DEC										
10...	0930	70	--	--	3	5	--	4	--	20
JAN										
23...	0945	[illegible]	--	--	4	5	--	5	--	20
FEB										
24...	1000	--	1	200	0	10	0	5	400	20
MAR										
24...	0915	150	--	--	0	1	--	2	--	30
APR										
27...	0945	200	--	--	0	0	--	6	--	20
MAY										
21...	0900	--	1	100	1	0	1	4	170	10
JUN										
22...	1530	1300	--	--	0	0	--	7	--	30
JUL										
21...	1050	690	--	--	[illegible]	6	--	4	--	20
AUG										
11...	1315	--	1	100	1	10	1	7	1000	<10
SEP										
16...	1000	40	--	--	1	10	--	6	--	20

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT									
07...	1	50	30	.0	1	4	15	0	30
NOV									
13...	1	--	40	--	--	--	--	[illegible]	20
DEC									
10...	1	--	190	--	--	--	--	0	60
JAN									
23...	2	--	180	--	--	--	--	0	30
FEB									
24...	1	520	570	.0	1	2	120	0	10
MAR									
24...	1	--	200	--	--	--	--	0	10
APR									
27...	2	--	270	--	--	--	--	0	30
MAY									
21...	1	100	110	.2	5	3	30	0	9
JUN									
22...	18	--	9	--	--	--	--	0	300
JUL									
21...	1	--	8	--	--	--	--	0	10
AUG									
11...	6	50	8	.0	4	5	5	0	10
SEP									
16...	5	--	11	--	--	--	--	[illegible]	10

06741510 BIG THOMPSON RIVER AT LOVELAND, CO

LOCATION.--Lat 40°22'43", long 105°03'38", in SE¼SE¼ sec.24, T.5 N., R.69 W., Larimer County Hydrologic Unit 10190006, on right bank 690 ft (210 m) downstream from county road bridge C-13, 1.7 mi (2.7 km) south of sugar refinery in Loveland, and 1.9 mi (3.1 km) from Farmers Ditch diversion.

DRAINAGE AREA.--535 mi² (1,386 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1979 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,906 ft (1,495.3 m), from topographic map.

REMARKS.--Records good.

COOPERATION.--City of Loveland.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,970 ft³/s (197 m³/s) Apr. 30, 1980, gage height, 10.10 ft (3.078 m), from highwater mark; minimum daily, 0.80 ft³/s (0.023 m³/s) May 11, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 349 ft³/s (9.88 m³/s) at 1000 Aug. 8, gage height, 3.62 ft (1.103 m); minimum daily, 0.80 ft³/s (0.023 m³/s) May 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	42	7.8	6.6	4.5	3.0	5.2	6.2	2.2	93	310	107
2	21	41	7.8	6.2	4.5	3.0	4.8	35	2.6	98	295	102
3	26	43	7.8	6.6	4.5	3.4	5.2	21	2.8	114	298	115
4	20	41	7.4	8.8	4.0	5.5	3.7	23	3.0	104	310	83
5	20	41	7.4	7.4	4.0	4.0	3.7	3.2	3.2	106	307	54
6	18	42	7.0	6.2	4.0	3.7	3.4	3.4	3.4	95	315	41
7	23	41	7.0	7.8	4.0	4.0	3.7	3.2	7.4	110	322	33
8	30	41	7.0	6.2	3.5	3.7	4.0	1.2	7.0	106	293	28
9	29	41	6.2	6.2	3.5	3.2	4.0	1.2	4.8	106	109	27
10	28	42	5.5	6.2	3.5	3.4	4.2	.85	16	102	114	26
11	28	42	6.6	6.6	3.5	3.4	4.8	.80	13	102	106	29
12	32	40	7.0	7.8	3.0	3.2	4.8	.85	8.8	109	115	29
13	29	39	6.6	7.4	3.0	4.0	4.8	.95	7.0	123	110	30
14	34	40	6.6	6.2	3.0	4.8	5.2	.90	4.0	96	79	25
15	39	40	6.6	5.8	2.4	4.8	5.2	.90	14	112	89	26
16	40	40	6.2	7.4	2.8	5.2	4.8	1.0	32	122	106	21
17	33	37	6.2	8.3	3.4	5.8	4.8	1.4	44	118	110	18
18	31	28	6.2	9.9	3.2	7.0	5.5	1.2	72	114	115	19
19	32	11	5.8	8.8	3.2	7.0	5.5	1.2	72	115	102	25
20	32	7.4	5.8	6.2	3.2	7.0	5.2	1.1	73	106	99	21
21	13	7.8	5.8	6.6	3.0	8.3	5.5	1.1	68	109	102	18
22	12	9.9	6.6	5.5	2.8	12	4.8	1.0	95	93	104	14
23	11	9.9	7.4	5.5	2.6	12	4.8	1.2	92	86	101	16
24	10	9.9	7.8	5.5	3.0	8.3	4.8	1.2	88	78	98	14
25	10	9.9	7.8	5.2	3.0	6.2	4.6	1.5	88	90	99	16
26	10	9.9	8.3	5.5	3.0	5.8	4.2	1.6	92	96	93	12
27	10	9.9	7.8	5.0	3.0	5.8	4.0	1.5	96	90	92	14
28	10	9.4	7.4	5.0	3.0	7.0	3.4	2.2	101	93	77	11
29	10	7.8	7.4	5.0	---	5.8	3.2	2.2	109	85	79	7.0
30	10	7.4	7.4	5.0	---	5.5	3.0	1.8	96	189	86	7.4
31	13	---	7.4	4.5	---	4.6	---	2.4	---	310	95	---
TOTAL	684	831.2	215.6	200.9	94.1	170.4	134.8	126.25	1317.2	3470	4730	988.4
MEAN	22.1	27.7	6.95	6.48	3.36	5.50	4.49	4.07	43.9	112	153	32.9
MAX	40	43	8.3	9.9	4.5	12	5.5	35	109	310	322	115
MIN	10	7.4	5.5	4.5	2.4	3.0	3.0	.80	2.2	78	77	7.0
AC-FT	1360	1650	428	398	187	338	267	250	2610	6880	9380	1960

CAL YR 1980 TOTAL 115801.40 MEAN 316 MAX 4240 MIN 5.5 AC-FT 229700
WTR YR 1981 TOTAL 12962.85 MEAN 35.5 MAX 322 MIN .80 AC-FT 25710

06741510 BIG THOMPSON RIVER AT LOVELAND, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
07...	1350	21	925	911	8.2	13.5	11.0	430	120	32
NOV										
19...	1140	10	925	877	8.3	4.0	11.7	410	115	30
DEC										
15...	1120	9.2	1300	1320	8.1	4.9	11.8	640	170	53
JAN										
21...	1145	5.6	1430	1420	8.0	3.5	12.3	700	180	60
FEB										
24...	1140	3.0	1550	1520	8.0	5.0	12.0	720	180	65
MAR										
24...	1130	6.5	1300	1250	8.2	9.0	12.3	630	170	51
APR										
29...	1145	3.0	1750	1710	8.1	16.0	12.0	770	190	72
MAY										
21...	1115	1.4	1700	1640	7.9	20.0	10.6	790	170	61
JUN										
22...	1245	110	330	326	8.2	21.0	7.8	160	43	13
JUL										
21...	1315	111	440	372	8.6	23.5	9.6	170	45	14
AUG										
11...	1515	103	410	405	8.3	21.5	7.8	170	46	14
SEP										
02...	1130	110	235	232	8.6	15.6	11.1	95	26	8.1

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT									
07...	32	.7	3.3	170	370	12	.2	5.4	620
NOV									
19...	29	.6	3.9	160	310	13	.4	5.0	615
DEC									
15...	50	1.0	4.5	[illegible]	537	16	.4	7.1	983
JAN									
21...	65	1.1	4.3	[illegible]	620	18	.5	8.7	1060
FEB									
24...	73	1.2	4.5	[illegible]	610	20	.4	7.2	1090
MAR									
24...	47	.8	2.8	[illegible]	410	14	.4	6.1	900
APR									
29...	80	1.3	4.6	[illegible]	852	20	.5	5.0	1160
MAY									
21...	110	1.7	4.0	[illegible]	[illegible]	23	.4	5.2	1220
JUN									
22...	13	.4	1.2	95	121	2.5	.2	4.4	232
JUL									
21...	12	.4	1.1	96	130	3.0	.2	4.0	250
AUG									
11...	13	.5	1.4	[illegible]	131	2.5	.2	4.7	281
SEP									
02...	[illegible]	.3	1.0	69	51	2.1	.1	3.7	129

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
OCT									
07...	.84	36.0	1.10	.010	1.1	.090	.77	.020	--
NOV									
19...	.84	18.9	1.10	.010	1.1	.080	.79	.050	--
DEC									
15...	1.4	15.9	1.70	.007	1.7	.190	1.70	.060	--
JAN									
21...	1.4	15.7	2.00	.020	2.0	.190	1.20	.050	--
FEB									
24...	1.4	8.9	2.00	.010	2.0	.190	.79	.040	.150
MAR									
24...	1.2	15.4	1.50	.020	1.5	.120	1.10	.060	--
APR									
29...	1.5	9.2	.75	.030	.78	.270	.90	.070	--
MAY									
21...	1.6	4.6	.73	.030	.76	.080	1.40	.100	--
JUN									
22...	.32	68.4	.17	.010	.18	.140	1.10	.010	--
JUL									
21...	.34	76.3	.15	.010	.16	.050	.82	.010	--
AUG									
11...	.37	67.0	.27	.020	.30	.170	.83	.020	--
SEP									
02...	.17	37.9	.31	.020	.33	.060	.50	[illegible]	--

06741510 BIG THOMPSON RIVER AT LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
OCT 07...	1050	--	4	100	1	0	0	5	160	30
NOV 19...	1140	70	--	--	0	5	--	5	--	--
DEC 16...	1120	70	--	--	1	2	--	4	--	40
JAN 23...	1145	20	--	--	0	5	--	5	--	10
FEB 24...	1140	--	0	300	0	10	0	4	180	30
MAR 24...	1130	90	--	--	0	0	--	2	--	30
APR 29...	1145	60	--	--	0	0	--	6	--	30
MAY 27...	1115	--	1	100	0	10	3	4	190	30
JUN 22...	1245	90	--	--	1	15	--	12	--	10
JUL 21...	1315	530	--	--	0	5	--	7	--	20
AUG 11...	1615	--	1	100	1	20	1	7	1500	13
SEP 02...	1130	150	--	--	1	6	--	6	--	36

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT 07...	3	70	50	.0	3	2	12	0	30
NOV 19...	0	--	--	--	--	--	--	0	50
DEC 16...	3	--	90	--	--	--	--	0	30
JAN 23...	9	--	130	--	--	--	--	1	30
FEB 24...	1	110	110	.0	2	1	20	0	10
MAR 24...	3	--	50	--	--	--	--	0	10
APR 29...	1	--	130	--	--	--	--	0	10
MAY 27...	5	150	160	.1	5	3	6	0	0
JUN 22...	17	--	20	--	--	--	--	0	10
JUL 21...	2	--	7	--	--	--	--	0	10
AUG 11...	5	50	8	.0	4	5	5	0	140
SEP 02...	5	--	8	--	--	--	--	0	10

PLATTE RIVER BASIN

06741520 BIG THOMPSON RIVER BELOW LOVELAND, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°23'00", long 105°01'45", in NW¼ SE¼ sec.20, T.5 N., R.68 W., Larimer County, Hydrologic Unit 10190006, at county road 9 E bridge, about 0.3 mi (0.48 km) upstream from outlet ditch and 2.0 mi (3.2 km) southeast of Loveland.

DRAINAGE AREA.--540 mi² (1,400 km²), approximately.

PERIOD OF RECORD.--June 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
07...	0900	28	1020	1020	7.7	12.5	7.2	460	120	39
NOV										
19...	0950	17	1000	1020	7.7	4.0	10.0	400	98	37
DEC										
16...	1300	14	1350	1360	8.0	7.5	11.3	540	130	52
JAN										
23...	1330	14	1320	1310	7.9	8.0	10.7	540	130	52
FEB										
24...	1445	10	1250	1160	8.0	13.5	10.4	450	100	48
MAR										
24...	1350	15	1360	1240	8.2	9.0	11.0	460	110	44
APR										
29...	1340	12	1650	1360	8.3	21.0	10.4	530	120	55
MAY										
27...	1325	13	1500	1460	8.7	25.5	11.5	520	110	60
JUN										
22...	1045	91	560	541	7.7	20.0	7.5	220	53	21
JUL										
21...	1450	121	540	503	8.7	25.0	9.2	200	52	18
AUG										
12...	0815	112	540	511	7.6	17.5	7.5	210	54	19
SEP										
02...	1350	113	370	337	8.5	21.5	8.0	130	32	11

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT									
07...	51	1.0	4.4	170	360	15	.2	5.6	705
NOV									
19...	60	1.3	4.7	140	330	18	.6	6.8	647
DEC									
16...	85	1.6	7.2	160	490	24	.7	7.4	903
JAN									
23...	89	1.7	6.2	--	500	28	1.0	10	941
FEB									
24...	97	2.0	8.5	190	430	30	.9	8.1	845
MAR									
24...	76	1.5	6.0	140	440	27	1.1	7.0	805
APR									
29...	110	2.1	4.0	150	490	32	1.2	7.1	935
MAY									
27...	130	2.5	7.2	160	560	32	1.1	5.7	1010
JUN									
22...	27	.8	1.9	72	180	5.4	.3	4.9	340
JUL									
21...	21	.6	1.8	73	170	5.9	.3	4.8	319
AUG									
12...	23	.7	2.0	91	160	5.0	.3	4.6	325
SEP									
02...	17	.7	1.7	56	96	4.6	.2	4.3	204

06741520 BIG THOMPSON RIVER BELOW LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
OCT 07...	.96	53.5	1.50	.120	1.5	.510	1.40	1.00	--
NOV 19...	.88	30.4	1.70	.080	1.8	3.30	4.70	1.80	--
DEC 16...	1.2	43.9	2.30	.140	2.4	4.60	4.90	1.10	--
JAN 23...	1.2	35.6	2.20	.150	2.3	3.00	4.40	.070	--
FEB 24...	1.1	22.8	1.60	.250	1.8	5.30	6.70	7.30	6.10
MAR 24...	1.0	34.5	2.30	.270	2.5	1.20	2.90	1.70	--
APR 29...	1.2	30.3	4.60	.300	4.9	.640	1.90	3.10	--
MAY 27...	1.3	35.5	2.30	.250	2.5	.270	2.20	2.40	--
JUN 22...	.46	83.5	.58	.040	.62	.330	1.30	.400	--
JUL 21...	.43	104	.32	.040	.36	.250	.80	.200	--
AUG 12...	.44	96.3	.50	.060	.56	.370	1.20	.290	--
SEP 02...	.24	62.2	.77	.060	.83	.500	.98	.040	--

DATE	TIME	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 07...	0900	--	2	100	0	10	0	4	180	30
NOV 19...	0950	80	--	--	0	5	--	6	--	30
DEC 16...	1300	60	--	--	1	3	--	5	--	30
JAN 23...	1330	150	--	--	0	3	--	6	--	20
FEB 24...	1445	--	1	200	0	10	0	8	180	30
MAR 24...	1350	140	--	--	0	4	--	5	--	30
APR 29...	1340	270	--	--	0	0	--	8	--	30
MAY 27...	1325	--	1	0	0	0	0	5	410	20
JUN 22...	1045	1000	--	--	0	8	--	7	--	30
JUL 21...	1450	370	--	--	0	4	--	6	--	10
AUG 12...	0815	--	1	100	0	20	1	7	1300	10
SEP 02...	1350	610	--	--	0	11	--	8	--	29

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 07...	3	100	80	.0	3	4	9	0	10
NOV 19...	2	--	80	--	--	--	--	0	30
DEC 16...	2	--	90	--	--	--	--	0	30
JAN 23...	8	--	120	--	--	--	--	1	30
FEB 24...	1	100	100	.1	5	24	9	0	30
MAR 24...	2	--	60	--	--	--	--	0	20
APR 29...	0	--	90	--	--	--	--	0	30
MAY 27...	6	50	40	.1	7	6	6	0	20
JUN 22...	17	--	30	--	--	--	--	0	50
JUL 21...	2	--	10	--	--	--	--	0	20
AUG 12...	6	60	22	.0	3	4	5	0	10
SEP 02...	7	--	12	--	--	--	--	0	20

06742500 CARTER LAKE NEAR BERTHOUD, CO

LOCATION.--Lat 40°19'28", long 105°12'41", in SE¼ sec.10, T.4 N., R.70 W., Larimer County, Hydrologic Unit 10190006, in hoist house 293 ft (89 m) from right abutment of Carter Lake Dam on Dry Creek, 7.0 mi (11.3 km) west of Berthoud, and 8.9 mi (14.3 km) upstream from mouth. Water-quality sampling site near center of reservoir.

WATER-CONTENTS RECORDS

PERIOD OF RECORD.--March 1954 to current year.

GAGE.--Nonrecording gage read at irregular intervals from 1 to 13 days. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir is formed by an earth and rockfill dam and dikes enlarging the natural basin of Carter Lake. Storage began in February 1954. Usable capacity, 113,500 acre-ft (140 hm^3) between elevations 5,618.00 ft (1,712.336 m), trashrack sill at outlet, and 5,763.00 ft (1,756.562 m), maximum water surface, 6 ft (1.8 m) below crest of dam. Dead storage, 3,310 acre-ft (4.08 hm^3). Figures given represent usable contents. Water diverted from Colorado River basin through Alva B. Adams tunnel is pumped from Flatiron Reservoir into Carter Lake for supplemental irrigation supply to Little Thompson River and St. Vrain and Boulder Creek basins. Water above elevation 5,620 ft (1,713.0 m) may be released for return to Flatiron Reservoir where pump turbines can operate in reverse to generate power and water can be used for irrigation in Big Thompson or Cache la Poudre River basins.

COOPERATION.--Records furnished by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 109,100 acre-ft (135 hm^3) Apr. 27-29, 1971, elevation, 5,759.12 ft (1,755.380 m); minimum observed since appreciable storage was attained, 960 acre-ft (1.18 hm^3) Oct. 25, 1954, elevation, 5,621.40 ft (1,713.403 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 105,800 acre-ft (130 hm^3) May 28, elevation, 5,756.24 ft (1,754.502 m); minimum contents, 33,940 acre-ft (41.8 hm^3) Sept. 30, elevation, 5,681.88 ft (1,731.837 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	5,711.52	59,330	-
Oct. 31	5,706.36	54,570	-4,760
Nov. 30	5,712.73	60,470	+5,900
Dec. 31	5,723.50	70,910	+10,440
CAL YR 1980			-7,580
Jan. 31	5,729.96	77,440	+6,530
Feb. 28	5,737.72	85,510	+8,070
Mar. 31	5,745.08	93,400	+7,890
Apr. 30	5,749.02	97,710	+4,310
May 31	5,755.80	105,300	+7,590
June 30	5,752.10	101,100	-4,200
July 31	5,723.94	71,350	-29,750
Aug. 31	5,691.84	41,940	-29,410
Sept. 30	5,681.88	33,940	-8,000
WTR YR 1981			-25,390

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1970 to current year.

REMARKS.--Samples collected at surface near center of reservoir. Reservoir storage represents usable contents.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP-LING DEPTH (FT)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
APR				
09...	1540	.10	6.0	10.8
09...	1541	2.00	6.0	10.9
09...	1542	5.00	6.0	11.0
09...	1543	10.0	5.5	11.5
09...	1544	20.0	5.5	11.9
09...	1545	25.0	5.5	12.0
09...	1546	30.0	5.5	12.0
09...	1547	40.0	5.5	12.2
09...	1548	50.0	5.5	12.1
09...	1549	60.0	5.5	12.1
09...	1550	70.0	5.5	12.0
09...	1551	75.0	5.5	12.0
09...	1552	80.0	5.5	12.0
09...	1553	90.0	5.5	12.7
MAY				
14...	1400	.10	12.0	9.8
14...	1401	5.00	11.0	10.1
14...	1402	10.0	11.0	10.8
14...	1403	20.0	11.0	11.8
14...	1404	25.0	10.5	12.0
14...	1405	30.0	9.5	12.4

DATE	TIME	SAMP-LING DEPTH (FT)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
MAY				
14...	1406	40.0	8.0	13.0
14...	1407	50.0	7.5	13.8
14...	1408	60.0	7.0	13.0
14...	1409	70.0	6.5	10.0
14...	1410	75.0	6.0	9.2
14...	1411	80.0	6.0	8.5
14...	1412	90.0	6.0	7.8
14...	1413	100	6.0	7.0
14...	1414	110	6.0	6.4
14...	1415	120	6.0	5.6
14...	1416	125	5.5	5.1
14...	1417	130	5.5	4.6
JUN				
04...	1450	.10	16.5	8.6
04...	1451	5.00	16.5	8.8
04...	1452	10.0	16.0	9.0
04...	1453	20.0	13.0	10.6
04...	1454	25.0	11.5	10.8
04...	1455	30.0	10.5	10.5
04...	1456	40.0	9.0	10.4

DATE	TIME	SAMP-LING DEPTH (FT)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
JUN				
04...	1457	50.0	8.5	8.2
04...	1458	60.0	8.0	7.4
04...	1459	70.0	7.5	6.2
04...	1500	75.0	7.0	5.2
04...	1501	80.0	7.0	4.6
04...	1502	90.0	7.0	3.8
04...	1503	100	7.0	3.0
04...	1504	110	7.0	2.4
JUL				
09...	1400	.10	22.5	7.3
09...	1401	5.00	22.0	7.8
09...	1402	10.0	21.5	7.6
09...	1403	20.0	20.0	7.8
09...	1404	25.0	16.0	7.6
09...	1405	30.0	12.0	7.5
09...	1406	40.0	10.0	6.6
09...	1407	50.0	9.0	4.6
09...	1408	60.0	8.5	3.7
09...	1409	70.0	8.0	3.4
09...	1410	75.0	8.0	3.1
09...	1411	80.0	8.0	2.9

DATE	TIME	SAMP-LING DEPTH (FT)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
JUL				
09...	1412	90.0	8.0	2.5
09...	1413	100	8.0	2.3
09...	1414	110	7.5	2.2
09...	1415	120	7.5	2.1
09...	1416	125	7.5	2.1
09...	1417	130	7.0	2.1
09...	1418	140	7.0	2.5
AUG				
05...	1415	.10	24.0	7.0
05...	1416	5.00	23.0	7.0
05...	1417	10.0	22.0	7.2
05...	1418	20.0	21.0	7.0
05...	1419	25.0	19.5	6.9
05...	1420	30.0	17.0	6.8
05...	1421	40.0	13.0	6.9
05...	1422	50.0	11.0	6.9
05...	1423	60.0	10.0	6.9
05...	1424	70.0	9.0	6.8
05...	1425	75.0	9.0	6.8
05...	1426	80.0	8.5	6.7

DATE	TIME	SAMP-LING DEPTH (FT)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
AUG				
05...	1427	90.0	8.0	6.5
05...	1428	100	8.0	5.6
05...	1429	110	7.5	5.2
SEP				
10...	1600	.10	19.0	--
10...	1601	5.00	18.5	--
10...	1602	10.0	18.5	--
10...	1603	20.0	18.5	--

DATE	TIME	SAMP-LING DEPTH (FT)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
SEP				
10...	1604	25.0	18.5	--
10...	1605	30.0	17.0	--
10...	1606	40.0	15.5	--
10...	1607	50.0	14.5	--
10...	1608	60.0	13.0	--
10...	1609	70.0	10.5	--
10...	1610	75.0	10.0	--

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TRANSPARENCY (SECCHI DISK) (IN)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
APR									
09...	1540	.10	60	6.3	124	<1	<1	44	[illegible]
MAY									
14...	1400	.10	80	8.6	106	<1	<1	42	.06
JUN									
04...	1450	.10	81	8.1	164	K1	<1	51	.07
JUL									
09...	1400	.10	86	8.1	81.6	<1	K1	[illegible]	.07
AUG									
05...	1415	.10	92	7.8	79.2	<1	<1	46	.07
SEP									
10...	1600	.10	96	7.7	51.0	K2	<1	52	.07

DATE	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	ALGAL GROWTH POTENTIAL, BOTTLE TEST (MG/L)	PHYTOPLANKTON, TOTAL (CELLS PER ML)
APR								
09...	.10	--	.010	.11	.070	.020	.3	970
MAY								
14...	2.30	--	.030	2.3	.110	.170	.4	1990
JUN								
04...	.26	--	.020	.28	.080	.020	--	1100
JUL								
09...	--	--	<.010	.03	.050	.020	--	1400
AUG								
05...	.08	--	.020	.10	.140	.130	--	940
SEP								
10...	.06	.010	.040	.00	.080	.030	--	2100

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE	APR 9,81		MAY 14,81		JUN 4,81		JUL 9,81		AUG 5,81		SEP 10,81	
TIME	1540		1400		1450		1400		1415		1600	
TOTAL CELLS/ML	970		1900		1100		1400		340		2100	
DIVERSITY: DIVISION	0.6		1.2		0.9		0.5		0.9		0.2	
.CLASS	0.6		1.2		0.9		0.5		0.9		0.2	
..ORDER	1.0		1.5		1.1		0.6		1.4		1.1	
...FAMILY	1.1		1.6		1.3		0.6		1.4		1.1	
....GENUS	1.7		1.7		1.3		0.6		1.4		1.2	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...HYDRODICTYACEAE												
....PEDIASTRUM	--	-	100	5	210#	18	--	-	--	-	--	-
...MICRACTINIACEAE												
....MICRACTINIUM	--	-	52	3	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	13	1	--	-	--	-	--	-	--	-	--	-
....CHODATELLA	--	-	13	1	--	-	--	-	--	-	890#	43
....KIRCHNERIELLA	--	-	--	-	--	-	130	9	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-	--	-	--	-
....SELENASTRUM	52	5	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE												
....SCENEDESMUS	65	7	--	-	52	5	--	-	28	8	--	-
..TETRASPORALES												
...COCCOMYXACEAE												
....ELAKATOTHRIX	--	-	--	-	--	-	26	2	--	-	--	-
...PALMELLACEAE												
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-	--	-	1100#	54
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	13	1	--	-	52	5	--	-	14	4	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	--	-	550#	28	13	1	--	-	--	-	14	1
....MELOSIRA	650#	67	13	1	--	-	--	-	--	-	42	2
....STEPHANODISCUS	130	13	--	-	--	-	--	-	--	-	--	-
..PENNALES												
...FRAGILARIACEAE												
....FRAGILARIA	52	5	--	-	--	-	--	-	--	-	--	-
.CHRYSOPHYCEAE												
..CHRYSOMONADALES												
...OCHROMONADACEAE												
....OCHROMONAS	--	-	--	-	--	-	--	-	28	8	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	--	-	120	6	--	-	--	-	28	8	--	-
..HORMOGONALES												
...NOSTOCACEAE												
....APHANIZOMENON	--	-	1100#	58	810#	72	1300#	89	240#	71	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06744000 BIG THOMPSON RIVER AT MOUTH, NEAR LA SALLE, CO

LOCATION.--Lat 40°21'00", long 104°47'04", in SW¼SE¼ sec.33, T.5 N., R.66 W., Weld County, Hydrologic Unit 10190006, on left bank just southeast of gage on Evans Town ditch, 0.7 mi (1.1 km) upstream from highway bridge, 1.6 mi (2.6 km) upstream from mouth, and 4.2 mi (6.8 km) west of La Salle.

DRAINAGE AREA.--828 mi² (2,145 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1914 to October 1915, March 1927 to current year. Prior to October 1933 monthly discharge only, published in WSP 1310. Published as Thompson River at mouth, near La Salle, 1934-47.

REVISED RECORDS.--WSP 976: 1941(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,680 ft (1,426 m), from topographic map. Apr. 1, 1914, to Oct. 31, 1915, nonrecording gage, and Mar. 1, 1927, to Sept. 30, 1951, water-stage recorder, at bridge 0.7 mi (1.1 km) downstream at different datums. Datum lowered 0.50 ft (0.152 m) May 21, 1962.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation of about 95,000 acres (384 km²) above station, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,220 ft³/s (176 m³/s) May 1, 1980, gage height, 9.91 ft (3.021 m), due to dam failure, site and datum then in use, from rating curve extended above 4,500 ft³/s (127 m³/s); maximum gage height, 8.72 ft (2.658 m) May 9, 1957, present datum; no flow at times in 1934-35, 1948.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 453 ft³/s (12.8 m³/s) at 2330 May 28, gage height, 3.03 ft (0.924 m); minimum daily, 14 ft³/s (0.40 m³/s) May 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	93	86	74	87	66	58	14	61	52	294	91
2	73	117	84	74	86	64	56	16	42	48	291	93
3	74	117	84	73	95	69	66	29	102	58	279	103
4	76	119	84	73	101	87	74	44	90	66	291	111
5	73	124	84	74	99	93	64	36	43	50	291	76
6	68	124	84	73	91	86	61	23	38	44	303	61
7	68	122	84	73	84	84	58	21	36	48	315	54
8	89	119	84	73	74	78	58	18	37	68	309	50
9	73	115	82	74	74	74	53	16	37	71	147	52
10	66	117	82	73	37	74	53	16	37	76	139	53
11	66	119	84	73	59	71	53	16	42	69	130	56
12	68	119	80	71	74	68	52	16	40	73	124	58
13	68	126	80	76	80	66	50	18	37	115	151	54
14	69	122	78	76	76	64	47	19	29	80	117	48
15	76	122	80	73	73	62	48	16	23	76	97	47
16	103	119	80	73	73	62	48	16	19	97	105	47
17	107	117	82	74	73	64	46	44	21	99	117	50
18	107	113	80	73	71	66	46	66	18	126	133	56
19	101	99	80	78	71	64	48	53	23	103	115	58
20	103	86	76	73	69	62	56	42	31	86	111	54
21	105	84	80	74	66	69	54	36	39	89	117	48
22	89	84	80	74	64	71	47	32	40	86	111	42
23	84	86	82	78	66	69	47	27	34	80	107	39
24	87	84	78	76	66	69	47	20	30	74	105	39
25	93	86	76	76	66	66	44	22	28	80	115	39
26	93	86	82	73	66	64	42	24	34	103	113	42
27	93	84	78	74	66	62	29	25	43	137	113	44
28	91	89	76	80	66	64	22	68	44	107	97	46
29	91	86	76	86	---	69	26	112	48	93	91	40
30	89	86	76	93	---	61	23	66	59	82	87	37
31	87	---	78	95	---	58	---	50	---	258	87	---
TOTAL	2606	3164	2500	2353	2073	2146	1476	1021	1205	2694	5002	1688
MEAN	84.1	105	80.6	75.9	74.0	69.2	49.2	32.9	40.2	86.9	161	56.3
MAX	107	126	86	95	101	93	74	112	102	258	315	111
MIN	66	84	76	71	37	58	22	14	18	44	87	37
AC-FT	5170	6280	4960	4670	4110	4260	2930	2030	2390	5340	9920	3350

CAL YR 1980 TOTAL 156343 MEAN 427 MAX 4530 MIN 66 AC-FT 310100
WTR YR 1981 TOTAL 27928 MEAN 76.5 MAX 315 MIN 14 AC-FT 55400

06744000 BIG THOMPSON RIVER AT MOUTH, NEAR LA SALLE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1954 to July 1956, October 1967 to September 1968, October 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT								
23...	0900	93	2240	2130	8.1	5.0	9.6	940
NOV								
19...	1100	109	1860	1800	7.8	2.4	11.0	740
DEC								
15...	1215	82	2050	2130	8.0	3.0	12.5	970
JAN								
21...	1030	65	2210	2180	8.1	.0	11.2	1000
FEB								
19...	0900	71	2180	2060	8.1	4.0	10.0	900
MAR								
25...	0940	68	2470	2240	8.2	5.0	11.1	1000
APR								
22...	0940	47	2430	2310	8.4	10.5	9.8	1100
MAY								
20...	1030	44	2430	2340	8.3	12.0	9.0	1100
JUN								
17...	0920	21	2510	2320	8.2	16.0	9.8	1100
JUL								
15...	0920	74	1790	1800	8.0	20.0	6.8	740
AUG								
12...	0900	130	1620	1520	8.0	17.5	7.5	640
SEP								
02...	1615	89	1550	1500	8.1	21.0	7.1	640

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT									
23...	180	120	160	2.3	6.3	300	960	26	1.1
NOV									
19...	140	95	130	2.1	6.7	270	750	20	1.0
DEC									
15...	190	120	160	2.2	6.9	300	880	25	1.1
JAN									
21...	190	130	160	2.2	6.5	310	1000	27	1.2
FEB									
19...	180	110	150	2.2	6.6	270	890	24	.9
MAR									
25...	200	130	170	2.3	6.0	300	990	31	1.0
APR									
22...	200	140	190	2.5	6.8	310	1100	30	1.1
MAY									
20...	200	140	180	2.4	9.4	320	1100	34	1.1
JUN									
17...	200	140	190	2.5	7.9	300	1200	3.9	.9
JUL									
15...	140	95	140	2.2	4.5	210	810	24	.8
AUG									
12...	126	78	110	2.1	3.6	180	620	17	.7
SEP									
02...	126	78	110	2.1	3.9	210	620	19	.7

06744000 BIG THOMPSON RIVER AT MOUTH, NEAR LA SALLE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 23...	9.4	1660	2.2	417	3.5	.350	50	120
NOV 19...	8.7	1330	1.8	391	3.4	.270	<10	100
DEC 15...	9.6	1590	2.1	352	4.0	.310	40	140
JAN 21...	11	1730	2.3	308	4.0	.340	50	200
FEB 19...	9.8	1550	1.4	197	3.4	.420	40	180
MAR 25...	8.8	1730	2.3	318	3.5	.390	100	150
APR 22...	5.1	1870	2.5	237	3.1	.360	50	180
MAY 20...	8.5	1880	2.5	223	3.3	.470	50	260
JUN 17...	8.2	1940	2.6	110	2.3	.280	30	310
JUL 15...	9.6	1360	1.8	272	2.2	.120	<10	110
AUG 12...	8.7	1080	1.4	379	1.9	.000	<10	64
SEP 02...	7.5	1100	1.5	264	2.7	.140	<10	43

06746095 JOE WRIGHT CREEK ABOVE JOE WRIGHT RESERVOIR, CO

LOCATION.--Lat 40°32'24", long 105°52'56", in SE¼SE¼ sec.26, T.7 N., R.76 W., Larimer County, Hydrologic Unit 10190007, on left bank 150 ft (46 m) below unnamed tributary and Colorado Highway 14 culvert crossing, 1.5 mi (2.4 km) northeast of Cameron Pass, 1.5 mi (2.4 km) southwest of Joe Wright Dam, and 8 mi (12.9 km) east of Gould.

DRAINAGE AREA.--3.01 mi² (7.80 km²).

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,990 ft (3,045 m), from topographic map.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 97 ft³/s (2.75 m³/s) June 15, 1979, gage height, 1.58 ft (0.482 m); maximum gage height, 3.99 ft (1.216 m) Apr. 19, 1981 (backwater from ice); minimum daily discharge, 0.20 ft³/s (0.006 m³/s) Jan. 30-Apr. 4, 1979, Feb. 9 to Apr. 9, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 90 ft³/s (2.55 m³/s) at 1730 June 4, gage height, 1.61 ft (0.491 m); maximum gage height, 3.99 ft (1.216 m) at 1600 Apr. 19 (backwater from ice); minimum daily discharge, 0.20 ft³/s (0.006 m³/s) Feb. 9 to Apr. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	.60	.40	.25	.25	.20	.20	8.0	43	15	5.0	1.3
2	.50	.60	.40	.25	.25	.20	.20	9.1	56	16	4.7	1.6
3	.45	.60	.40	.25	.25	.20	.20	10	59	18	4.5	2.3
4	.45	.50	.40	.25	.25	.20	.20	6.7	63	24	4.5	1.5
5	.45	.60	.40	.25	.25	.20	.20	6.1	48	22	4.5	2.1
6	.45	.60	.35	.25	.25	.20	.20	4.6	46	18	4.0	2.4
7	.45	.60	.30	.25	.25	.20	.20	4.0	67	17	3.8	2.1
8	.45	.60	.30	.25	.25	.20	.20	2.9	69	16	3.5	3.4
9	.41	.60	.30	.25	.20	.20	.20	2.2	64	15	3.5	3.5
10	.41	.60	.25	.25	.20	.20	.25	2.9	68	14	3.5	2.9
11	.41	.60	.25	.25	.20	.20	.35	3.0	58	13	3.5	1.6
12	.45	.60	.25	.25	.20	.20	.35	2.3	53	12	3.3	1.6
13	.50	.55	.25	.25	.20	.20	.35	2.2	56	12	3.7	1.5
14	.53	.50	.25	.25	.20	.20	.35	2.8	50	12	2.6	1.3
15	.64	.45	.25	.25	.20	.20	.40	2.6	45	10	4.7	1.2
16	.64	.45	.25	.25	.20	.20	.45	2.4	35	9.0	4.1	1.2
17	.64	.45	.25	.25	.20	.20	.50	2.7	31	8.0	2.9	2.3
18	.64	.45	.25	.25	.20	.20	.50	2.2	30	8.0	2.3	2.2
19	.60	.45	.25	.25	.20	.20	.55	2.8	29	8.0	2.1	2.1
20	.60	.45	.25	.25	.20	.20	.60	3.5	27	7.0	2.0	2.0
21	.60	.40	.25	.25	.20	.20	1.0	3.6	26	6.5	1.8	2.3
22	.60	.40	.25	.25	.20	.20	.80	3.1	26	6.0	2.2	2.1
23	.60	.40	.25	.25	.20	.20	.70	2.9	23	6.0	2.1	1.9
24	.60	.40	.25	.25	.20	.20	1.0	3.6	20	6.0	2.4	2.1
25	.60	.40	.25	.25	.20	.20	1.5	5.0	20	6.0	2.4	2.1
26	.60	.40	.25	.25	.20	.20	2.0	7.6	19	6.4	1.7	2.3
27	.60	.40	.25	.25	.20	.20	3.0	10	16	7.0	1.5	1.9
28	.60	.40	.25	.25	.20	.20	3.5	12	15	6.4	1.4	1.8
29	.60	.40	.25	.25	---	.20	4.5	15	14	6.0	1.3	1.6
30	.60	.40	.25	.25	---	.20	6.0	22	14	5.6	1.4	1.6
31	.60	---	.25	.25	---	.20	---	30	---	5.4	1.3	---
TOTAL	16.77	14.95	8.75	7.75	6.00	6.20	30.45	197.8	1190	341.3	92.2	59.8
MEAN	.54	.50	.28	.25	.21	.20	1.02	6.38	39.7	11.0	2.97	1.99
MAX	.64	.60	.40	.25	.25	.20	6.0	30	69	24	5.0	3.5
MIN	.41	.40	.25	.25	.20	.20	.20	2.2	14	5.4	1.3	1.2
AC-FT	33	30	17	15	12	12	60	392	2360	677	183	119

CAL YR 1980 TOTAL 2310.11 MEAN 6.31 MAX 68 MIN .25 AC-FT 4580
WTR YR 1981 TOTAL 1971.97 MEAN 5.40 MAX 69 MIN .20 AC-FT 3910

NOTE.--NO GAGE-HEIGHT RECORD NOV. 3 TO APR. 10, JULY 7 TO AUG. 12.

06746110 JOE WRIGHT CREEK BELOW JOE WRIGHT RESERVOIR, CO

LOCATION.--Lat 40°33'43", long 105°52'09", in SE¼NE¼ sec.24, T.7 N., R.76 W., Larimer County, Hydrologic Unit 10190007, on left bank 500 ft (152 m) downstream from unnamed tributary, 2,000 ft (610 m) downstream from Joe Wright Dam, and 3 mi (4.8 km) southwest of Chambers Lake.

DRAINAGE AREA.--6.90 mi² (17.9 km²).

PERIOD OF RECORD.--June 29, 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,710 ft (2,960 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 145 ft³/s (4.11 m³/s), June 30, 1978, gage height, 2.46 ft (0.750 m); minimum daily, 0.27 ft³/s (0.008 m³/s) Jan. 31 to Feb. 14, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 101 ft³/s (2.86 m³/s) at 1630 June 4, gage height, 2.35 ft (0.716 m); minimum daily, 0.30 ft³/s (0.008 m³/s) Feb. 10 to Apr. 8, Apr. 10-12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	.75	.45	.40	.35	.30	.30	2.3	63	6.2	8.0	2.9
2	2.1	.75	.45	.40	.35	.30	.30	2.6	77	7.6	8.0	4.0
3	2.3	.67	.45	.40	.35	.30	.30	4.9	81	12	8.0	4.3
4	2.3	.67	.45	.40	.35	.30	.30	2.6	92	20	7.6	4.0
5	2.2	.67	.45	.40	.35	.30	.30	2.3	93	18	7.6	4.1
6	2.3	.67	.45	.40	.35	.30	.30	2.3	84	18	7.3	4.3
7	2.3	.67	.45	.40	.35	.30	.30	1.9	79	17	6.9	4.3
8	2.5	.86	.45	.40	.35	.30	.30	2.1	76	16	6.9	4.2
9	2.5	.75	.45	.40	.35	.30	.35	2.5	77	16	7.2	2.5
10	2.5	.75	.45	.40	.30	.30	.30	2.5	77	14	6.9	1.8
11	2.8	.82	.40	.40	.30	.30	.30	2.5	75	12	6.4	2.4
12	2.9	.82	.40	.40	.30	.30	.30	3.5	76	12	6.2	2.6
13	3.0	.80	.40	.40	.30	.30	.35	4.5	77	12	6.2	2.6
14	3.3	.80	.40	.40	.30	.30	.35	5.5	83	12	6.2	2.6
15	3.5	.80	.40	.40	.30	.30	.35	6.9	85	11	6.2	2.6
16	3.6	.80	.40	.40	.30	.30	.45	6.6	79	11	6.2	2.6
17	3.6	.70	.40	.40	.30	.30	.60	5.6	78	11	6.2	2.6
18	3.6	.60	.40	.40	.30	.30	.90	4.9	76	11	6.2	2.6
19	3.7	.50	.40	.40	.30	.30	1.2	8.7	77	9.9	6.2	2.6
20	3.6	.45	.40	.40	.30	.30	1.0	9.5	74	9.1	6.2	2.6
21	4.0	.45	.40	.40	.30	.30	.75	12	74	8.7	6.2	2.6
22	3.6	.45	.40	.40	.30	.30	.67	9.1	74	8.7	5.9	2.6
23	3.6	.45	.40	.40	.30	.30	.45	10	44	8.5	5.9	2.6
24	3.6	.45	.40	.40	.30	.30	.90	11	21	8.0	5.9	2.6
25	3.6	.45	.40	.40	.30	.30	1.7	14	13	8.0	5.9	2.7
26	4.0	.45	.40	.40	.30	.30	2.6	20	6.6	7.7	5.9	2.8
27	4.0	.45	.40	.40	.30	.30	1.9	20	6.9	8.1	5.6	2.6
28	4.0	.45	.40	.40	.30	.30	1.6	23	6.9	8.7	5.6	2.5
29	4.0	.45	.40	.40	---	.30	2.1	22	6.6	9.2	5.6	2.5
30	4.0	.45	.40	.40	---	.30	1.9	26	6.6	9.0	5.6	2.5
31	1.9	---	.40	.35	---	.30	---	47	---	8.0	4.8	---
TOTAL	97.0	18.80	12.90	12.35	8.85	9.30	23.42	298.3	1838.6	348.4	199.5	88.2
MEAN	3.13	.63	.42	.40	.32	.30	.78	9.62	61.3	11.2	6.44	2.94
MAX	4.0	.86	.45	.40	.35	.30	2.6	47	93	20	8.0	4.3
MIN	1.9	.45	.40	.35	.30	.30	.30	1.9	6.6	6.2	4.8	1.8
AC-FT	192	37	26	24	18	18	46	592	3650	691	396	175

CAL YR 1980 TOTAL 1385.87 MEAN 3.79 MAX 37 MIN .40 AC-FT 2750
WTR YR 1981 TOTAL 2955.62 MEAN 8.10 MAX 93 MIN .30 AC-FT 5860

NOTE.--NO GAGE-HEIGHT RECORD NOV. 13 TO APR. 9.

06749500 CACHE LA POUDRE RIVER NEAR FORT COLLINS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°42'04", long 105°14'27", in NW¼SW¼ sec.33, T.9 N., R.70 W., Larimer County, Hydrologic Unit 10190007, 1,000 ft (300 m) upstream from North Fork and 11 mi (18 km) northwest of Fort Collins.

PERIOD OF RECORD.--October 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
29...	1100	45	70	76	7.5	4.0	10.5	29	8.1	2.2
NOV										
20...	1030	22	62	110	7.0	.0	10.8	40	11	3.0
DEC										
19...	1020	37	45	84	7.9	.5	10.8	34	9.0	2.9
JAN										
22...	1400	14	104	115	7.7	.5	11.8	44	12	3.3
FEB										
20...	0930	20	100	97	7.6	1.0	11.5	37	10	2.9
MAR										
20...	1155	14	112	111	7.7	9.5	10.1	41	11	3.2
APR										
23...	1330	53	45	45	8.2	13.0	8.2	31	8.4	2.4
MAY										
21...	1230	296	55	63	7.7	11.5	9.0	23	6.0	1.7
JUN										
18...	1330	600	50	37	7.6	12.5	8.7	14	4.0	1.0
JUL										
16...	1050	195	34	40	7.4	17.5	7.7	15	4.2	1.0
AUG										
12...	1445	102	40	47	7.3	17.5	7.8	18	4.8	1.5
SEP										
02...	0845	65	60	53	7.2	14.0	8.1	19	5.5	1.3

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT									
29...	3.5	.3	.9	32	4.8	1.6	.2	9.6	50
NOV									
20...	4.9	.3	1.1	39	1.3	2.4	.3	13	61
DEC									
19...	4.0	.3	.9	41	1.5	1.6	.3	10	56
JAN									
22...	5.2	.4	1.0	43	8.7	2.0	.3	12	72
FEB									
20...	5.6	.4	1.0	38	8.2	2.0	.2	9.9	63
MAR									
20...	5.9	.4	1.1	43	6.9	2.0	.3	10	67
APR									
23...	4.1	.3	1.1	32	2.0	1.3	.2	10	49
MAY									
21...	4.4	.4	.8	29	1.6	.9	.1	11	45
JUN									
18...	1.9	.2	.7	16	.9	.4	.1	7.3	26
JUL									
16...	2.2	.3	.5	19	2.8	.3	.1	7.2	30
AUG									
12...	2.6	.3	.8	13	<5.0	.3	.1	7.2	--
SEP									
02...	2.1	.2	1.0	22	<5.0	.7	.5	8.1	--

06749500 CACHE LA POUDRE RIVER NEAR FORT COLLINS, CO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)
OCT 20...	.07	6.4	.00	--	.000	.00	.010	.29	.010
NOV 20...	.08	3.6	.10	--	.010	.11	.030	.33	.020
DEC 18...	.08	5.5	.18	--	.010	.19	.030	2.10	.020
JAN 22...	.11	3.0	.10	--	.000	.16	.010	1.40	.020
FEB 20...	.05	1.8	.05	--	.000	.05	.030	.04	.010
MAR 26...	.09	3.3	.08	--	.000	.08	.050	.35	.020
APR 23...	.07	7.0	.06	--	.000	.06	.070	.37	.010
MAY 21...	.06	36.0	.07	.000	.000	.07	.080	.54	.040
JUN 18...	.04	42.1	.03	--	.010	.04	.150	1.00	.010
JUL 16...	.04	15.8	.02	--	.010	.03	.030	.72	.030
AUG 12...	--	--	.13	.000	.000	.13	.150	.49	.000
SEP 02...	--	--	--	--	<.020	<.10	.100	.29	.020

06749500 CACHE LA POUDRE RIVER NEAR FORT COLLINS, CO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ALUMINUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 20...	--	1	0	0	0	0	7	140	30
NOV 20...	40	--	--	1	3	--	1	--	30
DEC 18...	20	--	--	0	0	--	1	--	40
JAN 22...	20	--	--	0	3	--	3	--	10
FEB 20...	--	1	0	0	10	0	3	60	20
MAR 26...	40	--	--	0	4	--	2	--	20
APR 23...	70	--	--	0	0	--	4	--	60
MAY 21...	--	1	100	0	30	0	3	530	90
JUN 18...	170	--	--	0	3	--	6	--	80
JUL 16...	90	--	--	0	4	--	3	--	60
AUG 12...	--	0	0	0	0	0	3	120	45
SEP 02...	240	--	--	0	7	--	2	--	47

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 20...	2	10	<1	.0	1	1	0	0	10
NOV 20...	2	--	2	--	--	--	--	0	50
DEC 18...	0	--	<1	--	--	--	--	0	20
JAN 22...	5	--	3	--	--	--	--	0	10
FEB 20...	2	0	2	.0	1	0	0	0	10
MAR 26...	1	--	2	--	--	--	--	0	20
APR 23...	2	--	2	--	--	--	--	0	0
MAY 21...	5	10	2	.0	10	5	0	0	10
JUN 18...	4	--	<1	--	--	--	--	0	10
JUL 16...	6	--	1	--	--	--	--	0	10
AUG 12...	1	10	3	.2	3	0	0	0	0
SEP 02...	4	--	2	--	--	--	--	0	10

06749500 CACHE LA POUDRE RIVER NEAR FORT COLLINS, CO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)
MAY										
21...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP										
02...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
MAY									
21...	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP									
02...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)
MAY									
21...	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP									
02...	.00	.00	.00	.00	.00	<.01	.00	.00	.00

06752000 CACHE LA POUDRE RIVER AT MOUTH OF CANYON, NEAR FORT COLLINS, CO

LOCATION.--Lat 40°39'52", long 105°13'26", in NW¼ sec.15, T.8 N., R.70 W., Larimer County, Hydrologic Unit 10190007, on left bank at mouth of canyon, 0.5 mi (0.8 km) downstream from headgate of Poudre Valley Canal, 1.2 mi (1.9 km) upstream from Lewstone Creek, and 9.3 mi (15.0 km) northwest of courthouse in Fort Collins.

DRAINAGE AREA.--1,056 mi^{2} (2,735 km^{2}).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June to August 1881, May to July 1883, October 1883 to current year. Monthly discharge only for some periods, published in WSP 1310. Records for Mar. 23 to Apr. 30 and July 4 to Aug. 20, 1883, published in WSP 9, have been found to be unreliable and should not be used. Prior to 1902, published as Cache la Poudre Creek or River at or near Fort Collins.

REVISED RECORDS.--WSP 1310: 1885-87, 1889, 1892, 1894-96, 1934. WSP 1730: 1960, drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Altitude of gage is 5,220 ft (1,591 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transbasin and transmountain diversions (see elsewhere in this report), diversions above station for irrigation of about 50,000 acres (202 km^{2}), most of which is below station 81,530 acre-ft (101 hm^{3}) during current year, and diversions for municipal use 11,620 acre-ft (14.3 hm^{3}) during current year.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, occurred May 20, 1904; maximum discharge determined, 21,000 ft^{3}/s (595 m^{3}/s) June 9, 1891 (from reports of State Engineer of Colorado), caused by failure of Chambers Lake Dam; minimum daily discharge, 1.6 ft^{3}/s (0.045 m^{3}/s) Nov. 20, 28, 1948, caused by diversion of Poudre Valley Canal 0.5 mi (0.8 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,420 ft^{3}/s (68.5 m^{3}/s) at 0530 June 8, gage height, 4.92 ft (1.500 m); minimum daily, 14 ft^{3}/s (0.40 m^{3}/s) Feb. 11.

CORRECTION.--The acre-ft figure for diversions for irrigation was published in error in the report for 1980. The correct figure is 58,950 acre-ft (72.7 hm^{3}). This figure supersedes that published in the report for 1980.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	107	57	32	18	19	15	279	870	404	176	192
2	46	104	51	29	18	20	17	313	797	412	112	125
3	45	104	64	29	18	23	29	365	1070	685	74	67
4	46	101	58	31	18	19	30	397	1520	663	92	81
5	47	100	61	29	18	17	20	303	1410	560	92	65
6	50	100	70	27	17	19	20	283	1400	565	93	63
7	51	97	64	28	19	18	26	261	1780	545	92	76
8	53	96	57	27	17	19	24	232	1970	563	100	70
9	54	97	46	28	18	21	25	196	1720	529	141	112
10	50	95	51	28	16	19	27	182	1520	626	166	147
11	50	94	63	29	14	22	32	175	1270	470	153	151
12	53	92	60	29	19	21	33	167	1180	444	194	131
13	92	75	50	30	22	21	36	153	1150	504	234	125
14	142	74	52	31	22	18	36	139	1050	462	267	134
15	160	55	58	31	24	20	36	129	950	419	298	132
16	200	53	58	29	24	21	38	139	821	345	311	120
17	179	45	60	25	25	23	47	116	723	241	331	157
18	170	33	50	34	25	24	60	69	622	240	367	138
19	167	36	40	35	26	21	69	41	485	218	349	96
20	102	45	40	35	26	21	96	224	463	193	318	82
21	62	47	45	35	21	22	94	436	544	158	277	78
22	55	59	50	36	17	21	92	454	614	109	239	82
23	52	66	45	36	18	21	86	420	614	69	231	86
24	51	61	35	35	18	24	84	386	572	34	228	73
25	87	43	40	30	19	24	108	470	425	96	245	68
26	95	45	45	22	19	23	147	579	424	150	212	63
27	104	58	40	20	18	23	216	664	457	151	190	63
28	100	61	40	21	18	26	216	920	503	145	143	58
29	66	58	35	21	---	21	228	1060	542	148	152	50
30	42	60	40	19	---	20	270	878	495	135	163	39
31	63	---	35	20	---	19	---	934	---	219	169	---
TOTAL	2586	2161	1560	891	552	650	2257	11364	27961	10502	6209	2924
MEAN	83.4	72.0	50.3	28.7	19.7	21.0	75.2	367	932	339	200	97.5
MAX	200	107	70	36	26	26	270	1060	1970	685	367	192
MIN	42	33	35	19	14	17	15	41	424	34	74	39
AC-FT	5130	4290	3090	1770	1090	1290	4480	22540	55460	20830	12320	5800

CAL YR 1980 TOTAL 216722 MEAN 592 MAX 3520 MIN 20 AC-FT 429900
WTR YR 1981 TOTAL 69617 MEAN 191 MAX 1970 MIN 14 AC-FT 138100

NOTE.--NO GAGE-HEIGHT RECORD DEC. 12 TO FEB. 28.

06752000 CACHE LA POUDRE RIVER AT MOUTH OF CANYON, NEAR FORT COLLINS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1962 to October 1965, October 1971 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT 20...	1300	82	220	222	8.4	10.0	9.6	89
NOV 20...	1125	45	171	216	7.6	.5	11.1	88
DEC 18...	1200	45	136	177	7.9	1.5	11.0	69
JAN 22...	1200	35	120	145	7.6	.5	11.8	57
FEB 20...	1030	22	110	108	7.5	3.0	11.4	39
MAR 26...	1300	22	117	113	7.8	11.5	10.4	43
APR 23...	1200	73	144	159	8.4	12.0	9.2	61
MAY 21...	1300	512	147	147	8.4	12.5	8.9	60
JUN 18...	1045	619	57	54	7.9	13.0	8.8	21
JUL 16...	1150	310	145	148	8.1	20.5	7.4	61
AUG 12...	1550	194	166	170	8.5	20.5	7.6	68
SEP 02...	1015	144	163	166	8.0	15.5	7.2	68

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 20...	24	7.0	8.9	.4	1.4	89	11	5.0	.7
NOV 20...	24	6.7	9.3	.4	1.4	88	9.0	4.8	.6
DEC 18...	19	5.2	8.7	.5	1.0	75	9.5	4.0	.5
JAN 22...	16	4.2	7.3	.4	1.1	66	9.3	2.6	.4
FEB 20...	11	2.9	5.0	.3	.9	42	7.9	1.8	.2
MAR 20...	12	3.2	5.7	.4	1.1	42	2.8	6.6	.3
APR 23...	17	4.6	7.2	.4	1.2	62	9.3	3.7	.4
MAY 21...	17	4.3	6.2	.3	1.2	59	1.2	3.3	.4
JUN 18...	6.0	1.4	2.3	.2	.7	16	1.4	.7	.1
JUL 16...	18	4.0	6.0	.3	1.1	56	1.6	3.2	.4
AUG 12...	19	5.1	6.7	.4	1.2	63	<5.0	3.6	.5
SEP 02...	19	5.0	6.3	.4	1.5	73	<5.0	2.9	.5

06752000 CACHE LA POUDRE RIVER AT MOUTH OF CANYON, NEAR FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT								
20...	11	124	.17	27.5	.31	.020	20	7
NOV								
20...	11	121	.16	14.7	.20	.020	<10	10
DEC								
18...	9.7	102	.14	12.4	.25	.020	20	3
JAN								
22...	12	94	.13	8.0	.21	.040	10	5
FEB								
20...	9.2	65	.09	3.8	.10	.020	20	4
MAR								
26...	9.4	67	.09	3.9	.09	.030	40	5
APR								
23...	10	91	.12	17.9	.13	.020	40	4
MAY								
21...	12	82	.11	113	.22	.040	100	7
JUN								
18...	7.6	30	.04	50.1	.05	.020	70	2
JUL								
16...	3.8	72	.10	60.3	.13	.020	20	10
AUG								
12...	9.5	--	--	--	.13	.000	25	5
SEP								
02...	10	--	--	--	<.10	.020	34	6

06752258 CACHE LA POUDRE RIVER AT SHIELDS STREET AT FORT COLLINS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°36'11", long 105°05'43", in NE¼SE¼ sec.3, T.7 N., R.69 W., Larimer County, Hydrologic Unit 10190007, at Shields Street bridge, 0.8 mi (1.3 km) downstream from Larimer-Weld Canal and 1.0 mi (1.6 km) northwest of Fort Collins.

PERIOD OF RECORD.--October 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 20...	1440	73	230	216	8.9	12.0	10.2	92	26
NOV 20...	1330	6.7	485	502	7.4	6.5	9.6	220	63
DEC 18...	1340	2.5	596	524	7.9	6.5	10.1	230	66
JAN 22...	1100	2.0	530	566	7.9	4.0	10.6	270	77
FEB 20...	1220	2.5	520	536	8.0	9.5	10.2	250	69
MAR 26...	1440	1.8	508	525	8.1	16.0	10.6	240	66
APR 23...	1530	8.6	310	313	8.8	18.0	9.8	140	39
MAY 21...	1430	114	160	165	6.9	14.5	9.2	69	20
JUN 18...	0945	140	100	98	8.1	13.5	9.0	38	11
JUL 16...	1320	82	130	132	8.1	16.5	8.7	54	16
AUG 13...	0915	54	166	155	7.9	14.5	9.3	62	18
SEP 02...	1145	15	180	189	8.4	18.5	9.3	79	23

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT 20...	6.5	7.6	.4	1.2	88	22	3.6	.4	6.8
NOV 20...	16	14	.4	2.6	190	64	6.4	.5	10
DEC 18...	17	15	.4	1.6	210	56	7.5	.6	10
JAN 22...	19	20	.5	1.7	210	73	7.3	.6	12
FEB 20...	18	18	.5	1.8	200	69	7.0	.5	9.1
MAR 26...	18	16	.5	1.7	190	73	7.0	.5	8.5
APR 23...	10	11	.4	1.5	100	46	4.5	.4	9.3
MAY 21...	4.7	9.1	.5	1.2	65	17	2.7	.3	10
JUN 18...	2.6	3.1	.2	.9	29	2.3	1.3	.2	7.8
JUL 16...	3.4	4.4	.3	1.0	50	<5.0	2.0	.2	6.6
AUG 13...	4.2	4.9	.3	1.2	53	16	1.6	.2	6.4
SEP 02...	5.2	5.7	.3	1.4	69	21	2.1	.5	6.7

06752258 CACHE LA POUDRE RIVER AT SHIELDS STREET AT FORT COLLINS, CO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT								
20...	128	.17	25.4	.16	.040	.010	30	4
NOV								
20...	296	.40	5.3	1.4	.050	.030	<10	20
DEC								
18...	304	.42	2.0	1.9	.050	.030	<10	10
JAN								
22...	344	.47	1.8	1.7	.030	.030	<10	40
FEB								
20...	320	.28	1.3	1.5	.030	.010	10	20
MAR								
26...	311	.42	1.5	1.4	.100	.020	20	10
APR								
23...	183	.25	4.3	.34	.050	.010	10	9
MAY								
21...	105	.14	32.3	.18	.080	.040	90	6
JUN								
18...	47	.06	17.8	.11	.110	.020	80	4
JUL								
16...	65	.09	14.4	.19	.020	.020	40	4
AUG								
13...	86	.12	12.5	.25	.120	.000	35	5
SEP								
02...	108	.15	4.3	.20	.090	.020	23	8

DATE	TIME	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)
MAY										
21...	1430	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP										
02...	1145	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)
MAY									
21...	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP									
02...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	MIREX, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY									
21...	.00	.00	.00	.00	.00	.00	.01	.00	.00
SEP									
02...	.00	.00	.00	.00	.00	.00	.02	.00	.00

06752260 CACHE LA POUDRE RIVER AT FORT COLLINS, CO

LOCATION.--Lat 40°35'17", long 105°04'08", in NE¼SW¼ sec.12, T.7 N., R.69 W., Larimer County, Hydrologic Unit 10190007, on left bank 150 ft (46 m) downstream from Lincoln Ave. Bridge, and 2,200 ft (670 m) east of intersection of College Ave. (U.S. Highway 287) and Mountain Ave. in Fort Collins.

DRAINAGE AREA.--1,127 mi² (2,919 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,940 ft (1,506 m), from topographic map.

REMARKS.--Records good except for period of fragmentary gage-height record Mar. 25 to May 4, which is fair. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, diversion for municipal supply, diversions above station for irrigation, and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,700 ft³/s (161 m³/s) Aug. 1, 1976, gage height, 8.84 ft (2.694 m), from floodmarks, from rating curve extended above 1,200 ft³/s (34 m³/s), on basis of slope-area measurement of peak flow; minimum daily, 0.77 ft³/s (0.022 m³/s) Sept. 16, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,930 ft³/s (54.7 m³/s) at 0730 June 8, gage height, 5.83 ft (1.777 m); minimum daily, 0.77 ft³/s (0.022 m³/s) Sept. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	9.7	4.7	4.3	3.3	4.9	3.0	95	71	189	85	15
2	11	8.6	4.5	3.9	2.9	4.5	2.7	116	2.2	152	27	17
3	7.4	8.5	4.4	3.4	2.9	12	12	182	84	417	11	19
4	5.9	8.4	4.5	3.4	2.9	12	3.0	200	669	100	28	20
5	5.2	8.5	4.5	3.6	2.8	3.4	3.0	128	964	2.2	36	23
6	6.3	9.2	4.5	3.6	3.0	3.2	2.2	65	1230	70	57	15
7	25	8.6	4.6	3.7	3.0	5.3	2.2	69	1430	111	46	13
8	72	8.0	5.3	4.3	2.9	2.8	3.0	34	1460	138	59	2.2
9	75	8.5	5.2	4.5	2.9	3.1	3.0	14	1130	132	92	.86
10	75	8.5	5.2	4.5	2.8	4.1	3.0	11	732	151	112	.86
11	80	8.5	4.9	4.4	2.7	4.3	3.8	7.1	443	157	47	21
12	80	6.7	5.2	3.6	3.6	4.4	8.0	2.8	286	58	4.5	19
13	86	7.3	4.5	3.9	3.1	4.5	12	2.7	156	216	29	14
14	85	7.9	3.9	3.9	3.5	3.3	12	3.2	41	37	80	1.9
15	80	6.4	3.8	3.8	3.5	3.0	12	40	15	41	100	1.6
16	67	6.3	3.8	3.7	3.5	3.1	9.9	41	14	55	123	.77
17	60	6.1	3.7	3.3	3.5	3.2	8.0	110	8.5	59	112	11
18	57	6.2	3.9	3.8	3.0	5.2	6.6	61	9.2	26	180	20
19	61	6.0	4.1	3.4	3.1	3.4	21	36	4.4	31	176	15
20	64	5.4	3.4	3.7	3.8	3.3	13	4.4	41	30	155	12
21	42	6.4	3.4	3.7	3.4	6.2	12	14	52	28	78	6.3
22	11	5.1	3.3	3.3	3.2	3.2	8.6	75	45	18	19	4.6
23	11	5.1	3.4	3.3	3.3	3.0	9.2	64	32	31	19	4.0
24	11	6.0	3.4	3.2	3.3	4.9	11	5.5	25	67	15	4.3
25	9.4	6.3	3.5	3.2	4.1	3.2	11	51	52	77	11	4.3
26	9.0	6.2	3.7	3.1	4.3	4.4	11	262	89	104	13	16
27	9.0	5.2	4.5	3.3	4.7	4.4	9.2	331	151	71	9.9	68
28	10	5.3	4.7	4.1	4.9	6.0	4.4	227	82	74	40	38
29	10	5.3	4.8	4.1	---	4.4	8.0	296	148	65	34	33
30	9.6	4.7	4.9	4.0	---	4.4	51	46	233	68	12	25
31	9.4	---	4.7	3.9	---	3.2	---	64	---	108	15	---
TOTAL	1152.6	208.9	132.9	115.9	93.9	140.3	278.8	2657.7	9699.3	2883.2	1825.4	445.69
MEAN	37.2	6.96	4.29	3.74	3.35	4.53	9.29	85.7	323	93.0	58.9	14.9
MAX	86	9.7	5.3	4.5	4.9	12	51	331	1460	417	180	68
MIN	5.2	4.7	3.3	3.1	2.7	2.8	2.2	2.7	2.2	2.2	4.5	.77
AC-FT	2290	414	264	230	186	278	553	5270	19240	5720	3620	884

CAL YR 1980 TOTAL 150592.00 MEAN 411 MAX 3700 MIN 3.2 AC-FT 298700
WTR YR 1981 TOTAL 19634.59 MEAN 53.8 MAX 1460 MIN .77 AC-FT 38950

06752260 CACHE LA POUDRE RIVER AT FORT COLLINS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT									
21...	0930	53	304	291	7.9	7.5	10.3	130	36
NOV									
20...	1555	5.1	627	640	7.6	5.5	11.8	270	73
DEC									
18...	1540	3.8	685	695	8.0	5.0	11.3	300	81
JAN									
22...	0930	3.2	730	757	7.7	1.0	10.2	350	94
FEB									
19...	1700	3.2	680	716	8.0	10.0	12.4	310	83
MAR									
26...	0950	3.8	720	738	7.8	8.5	10.4	330	86
APR									
23...	1030	8.6	475	484	8.3	12.5	11.5	210	58
MAY									
21...	1010	4.8	352	350	8.3	12.0	9.1	150	41
JUN									
17...	1700	9.7	230	231	8.2	21.0	8.5	90	25
JUL									
16...	1500	59	155	160	8.7	18.5	10.1	65	19
AUG									
13...	1030	27	204	196	8.1	16.5	9.8	81	23
SEP									
02...	1330	14	260	277	8.4	19.0	9.3	110	32

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT									
21...	9.1	10	.4	1.6	110	35	4.8	.4	4.7
NOV									
20...	22	25	.7	4.0	210	100	15	.6	9.4
DEC									
18...	24	26	.7	3.5	230	110	16	.6	9.7
JAN									
22...	27	34	.8	3.7	240	140	20	.6	12
FEB									
19...	25	31	.8	3.7	220	140	16	.4	9.0
MAR									
26...	27	32	.8	3.5	210	150	14	.5	7.4
APR									
23...	17	18	.5	2.5	140	89	9.1	.4	8.2
MAY									
21...	11	18	.6	2.2	120	58	7.5	.4	7.8
JUN									
17...	6.7	9.6	.4	1.6	64	44	6.0	.2	8.1
JUL									
16...	4.3	6.0	.3	1.1	60	9.0	2.7	.2	6.5
AUG									
13...	5.7	6.8	.4	1.5	58	25	2.9	.2	5.7
SEP									
02...	8.3	9.9	.4	2.0	94	41	7.5	.5	5.9

06752260 CACHE LA POUDRE RIVER AT FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)
OCT 21...	169	.23	24.2	.37	.000	.37	.030	.44	.010
NOV 20...	382	.52	5.2	1.60	.030	1.6	.060	.73	.040
DEC 18...	417	.57	4.2	1.80	.030	1.8	.050	.65	.050
JAN 22...	483	.66	4.1	1.70	.020	1.7	.040	.96	.030
FEB 19...	447	.61	2.5	1.50	.020	1.5	.040	.01	.030
MAR 26...	452	.61	4.6	1.10	.020	1.1	.050	.93	.030
APR 23...	289	.39	6.7	.44	.010	.45	.050	.89	.020
MAY 21...	221	.30	2.8	.55	.010	.56	.080	.68	.050
JUN 17...	142	.19	3.7	.46	.000	.46	.050	.50	.040
JUL 16...	86	.12	13.7	.14	.010	.15	.040	.61	.020
AUG 13...	107	.15	7.8	.25	.000	.25	.110	.48	.000
SEP 02...	165	.22	6.2	--	<.020	.26	.110	.61	.020

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 21...	70	--	--	0	5	--	8	--	20
NOV 20...	--	1	100	0	0	0	2	280	20
DEC 18...	20	--	--	1	0	--	2	--	10
JAN 22...	20	--	--	0	6	--	4	--	20
FEB 19...	--	1	0	0	0	0	4	270	40
MAR 26...	50	--	--	0	0	--	2	--	80
APR 23...	70	--	--	0	0	--	5	--	80
MAY 21...	--	1	0	0	10	0	3	500	60
JUN 17...	10	--	--	0	3	--	5	--	90
JUL 16...	200	--	--	0	6	--	6	--	60
AUG 13...	--	0	0	0	0	1	7	130	70
SEP 02...	340	--	--	0	7	--	4	--	29

06752260 CACHE LA POUDRE RIVER AT FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 21...	0	--	20	--	--	--	--	1	10
NOV 20...	3	40	40	.0	2	2	1	0	20
DEC 18...	2	--	40	--	--	--	--	0	20
JAN 22...	7	--	80	--	--	--	--	0	10
FEB 19...	1	70	70	.0	1	3	1	0	10
MAR 26...	4	--	70	--	--	--	--	0	10
APR 23...	2	--	50	--	--	--	--	0	20
MAY 21...	6	40	20	.1	1	10	1	0	20
JUN 17...	4	--	20	--	--	--	--	0	10
JUL 16...	4	--	4	--	--	--	--	0	10
AUG 13...	0	20	12	.0	4	2	0	0	10
SEP 02...	2	--	10	--	--	--	--	0	10

DATE	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
MAY 21...	.00	.00	.00	.00	.00	.00	.00	.01	.00
SEP 02...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
MAY 21...	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP 02...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 21...	.00	.00	.00	.00	.00	.00	.01	.00	.00
SEP 02...	.00	.00	.00	.00	.00	.00	.02	.00	.00

06752270 CACHE LA POUDRE RIVER BELOW FORT COLLINS, CO

LOCATION.--Lat 40°34'01", long 105°01'36", in NW¼NE¼ sec.20, T.7 N., R.68 W., Larimer County, Hydrologic Unit 10190007, 1.4 mi (2.3 km) west of Interstate 25 on Prospect Street in Fort Collins.

PERIOD OF RECORD.--January 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 20...	1705	21	650	669	8.2	13.5	9.8	300	79
NOV 21...	0950	8.2	785	791	7.7	5.0	11.3	350	91
DEC 19...	0910	8.1	780	813	8.0	3.0	9.3	370	100
JAN 21...	1515	6.0	810	839	8.2	5.0	11.2	380	100
FEB 19...	1500	6.5	760	813	8.2	10.5	10.6	360	94
MAR 25...	1540	8.2	665	704	8.3	11.0	11.5	310	78
APR 22...	1630	5.3	655	693	8.8	15.5	13.3	310	78
MAY 20...	1620	11	600	633	8.8	16.0	12.0	250	67
JUN 17...	1500	24	580	593	8.7	22.0	11.8	230	59
JUL 15...	1640	56	400	409	9.0	23.5	11.9	140	35
AUG 13...	1315	44	650	624	8.7	23.0	16.0	210	55
SEP 01...	1645	28	690	673	8.9	22.0	14.6	200	54

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT 20...	25	25	.6	1.8	240	91	13	.7	12
NOV 21...	30	32	.7	2.1	220	160	15	.7	13
DEC 19...	30	31	.7	1.6	260	130	18	.7	12
JAN 21...	31	41	.9	2.1	260	160	25	.6	12
FEB 19...	30	32	.7	2.5	220	180	16	.6	11
MAR 25...	27	31	.8	2.2	200	120	17	.6	8.1
APR 22...	27	33	.8	2.9	210	120	25	.6	8.9
MAY 20...	21	31	.8	3.3	160	130	22	.5	7.4
JUN 17...	20	36	1.0	2.7	140	110	26	.5	8.6
JUL 15...	12	28	1.0	2.3	85	83	23	.3	6.4
AUG 13...	17	48	1.6	3.8	130	100	48	.5	6.5
SEP 01...	17	56	1.8	4.2	140	100	64	.0	7.4

06752270 CACHE LA POUDRE RIVER BELOW FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)
OCT									
20...	409	.56	23.4	3.80	.010	3.8	.040	.96	.060
NOV									
21...	494	.67	11.0	4.00	.040	4.0	.030	1.10	.060
DEC									
19...	497	.68	10.9	4.00	.040	4.0	.340	1.10	.040
JAN									
21...	544	.74	8.8	3.60	.020	3.6	.020	1.30	.040
FEB									
19...	513	.49	6.2	3.30	.020	3.3	.030	.08	.040
MAR									
25...	417	.57	9.2	2.60	.030	2.8	.080	1.30	.030
APR									
22...	434	.59	6.2	2.70	.050	2.7	.050	1.20	.110
MAY									
20...	388	.53	11.5	2.10	.060	2.2	.110	1.10	.140
JUN									
17...	357	.49	23.1	2.20	.050	2.2	.120	1.00	.360
JUL									
15...	245	.34	37.8	.78	.010	.79	.020	.88	.210
AUG									
13...	363	.49	43.1	1.40	.030	1.4	.130	.85	.000
SEP									
01...	396	.54	29.9	2.00	.070	2.1	.090	1.10	.530

06752270 CACHE LA POUDRE RIVER BELOW FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
OCT									
20...	50	--	--	0	5	--	11	--	<10
NOV									
21...	--	1	200	0	0	0	2	240	<10
DEC									
19...	150	--	--	0	3	--	3	--	<10
JAN									
21...	70	--	--	0	9	--	4	--	10
FEB									
19...	--	2	100	0	10	0	7	2600	<10
MAR									
25...	240	--	--	0	3	--	3	--	20
APR									
22...	140	--	--	0	1	--	4	--	60
MAY									
20...	--	1	100	0	10	0	3	340	30
JUN									
17...	10	--	--	0	3	--	4	--	40
JUL									
15...	160	--	--	0	4	--	4	--	30
AUG									
13...	--	1	100	0	10	1	6	210	23
SEP									
01...	200	--	--	0	7	--	4	--	28

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT									
20...	6	--	10	--	--	--	--	0	20
NOV									
21...	5	20	10	.9	5	4	5	0	60
DEC									
19...	6	--	70	--	--	--	--	0	30
JAN									
21...	6	--	20	--	--	--	--	0	20
FEB									
19...	8	90	20	.0	4	5	4	0	20
MAR									
25...	6	--	10	--	--	--	--	0	10
APR									
22...	4	--	10	--	--	--	--	0	10
MAY									
20...	7	30	20	.1	4	4	2	0	0
JUN									
17...	4	--	20	--	--	--	--	0	10
JUL									
15...	7	--	4	--	--	--	--	0	10
AUG									
13...	3	20	11	.2	5	0	1	0	10
SEP									
01...	1	--	7	--	--	--	--	1	10

06752270 CACHE LA POUDRE RIVER BELOW FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
MAY									
20...	.00	.00	.00	.00	.00	.00	.00	.04	.00
SEP									
01...	.00	.00	.00	.00	.00	.00	.00	.02	.00

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
MAY									
20...	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP									
01...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY									
20...	.00	.00	.00	.00	.00	.00	>.14	.00	>.01
SEP									
01...	.00	.00	.00	.00	.00	.00	.05	.00	.00

06752280 CACHE LA POUDRE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO

LOCATION.--Lat 40°32'56", long 105°00'28", in NW¼NE¼ sec.28, T.7 N., R.68 W., Larimer County, Hydrologic Unit 10190007, on left bank 2,100 ft (640 m) upstream from Box Elder Creek, 2.0 mi (3.2 km) upstream from Interstate Highway 25 bridge and 3.8 mi (6.1 km) southeast of intersection of College Avenue and Prospect Street in Fort Collins.

DRAINAGE AREA.--1,245 mi² (3,225 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,860 ft (1,481 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, diversion for municipal supply, diversions above station for irrigation, and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,410 ft³/s (125 m³/s) May 25, 1980, gage height, 6.40 ft (1.951 m); minimum daily, 3.0 ft³/s (0.085 m³/s) Oct. 4, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,270 ft³/s (64.3 m³/s) at 1100 June 8, gage height, 5.51 ft (1.679 m); minimum daily, 4.0 ft³/s (0.11 m³/s) Apr. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	9.8	20	9.4	6.1	4.9	4.0	6.4	20	89	43	5.9
2	15	9.8	20	9.8	5.9	5.0	4.0	12	8.1	51	7.9	6.1
3	13	9.8	20	9.1	8.1	5.5	4.4	53	16	291	7.2	6.4
4	10	10	20	9.4	10	7.4	4.8	66	375	99	6.6	6.6
5	8.1	12	20	9.4	8.4	6.8	4.6	34	921	8.4	6.6	6.6
6	9.1	13	20	9.1	7.9	6.1	4.4	11	1340	21	18	9.6
7	8.9	12	20	8.6	6.6	5.9	4.3	7.6	1560	24	9.0	6.2
8	15	13	19	8.6	5.9	5.5	4.3	7.2	1700	35	14	6.1
9	17	14	17	8.4	5.9	5.4	4.3	6.6	1340	41	36	5.9
10	17	17	15	7.9	6.9	5.2	4.3	6.4	792	54	45	5.7
11	19	21	8.9	8.4	5.7	5.2	4.2	6.2	420	75	13	5.5
12	20	20	9.1	8.4	5.7	5.0	4.2	6.2	213	8.9	6.9	5.5
13	23	22	8.9	8.4	5.7	4.9	4.3	6.2	109	176	8.4	5.9
14	23	24	8.9	8.4	5.7	4.9	4.3	6.2	9.1	11	26	5.9
15	21	23	8.9	8.4	5.7	4.9	4.2	6.1	6.2	8.6	32	7.4
16	27	22	8.6	8.1	5.7	4.9	4.2	6.4	5.7	7.6	44	14
17	15	22	8.6	7.9	5.7	4.8	4.3	45	5.5	7.4	35	17
18	14	22	9.1	8.1	5.7	4.8	4.4	12	5.9	7.4	76	26
19	14	22	10	8.4	5.7	4.8	4.4	8.6	5.5	7.2	77	24
20	17	22	8.9	7.9	5.7	4.6	4.6	8.1	5.5	7.2	60	15
21	14	22	8.6	6.8	5.7	4.6	4.6	7.6	5.7	6.9	31	13
22	12	23	8.9	6.9	5.5	4.6	4.8	7.2	5.7	7.2	7.9	12
23	11	23	8.4	7.6	5.4	4.8	4.8	6.8	5.7	7.4	7.2	11
24	11	21	8.6	6.9	5.4	4.8	4.8	6.9	6.1	9.8	6.8	10
25	11	21	8.6	6.6	5.2	4.8	4.8	8.1	6.2	13	6.6	10
26	12	20	10	7.6	5.0	4.8	4.8	100	6.8	33	6.4	10
27	12	20	10	9.1	5.0	4.4	4.8	203	53	15	6.4	24
28	11	20	10	7.6	4.9	4.4	4.6	64	7.9	13	8.3	22
29	12	20	10	6.8	---	4.3	4.6	93	38	7.9	6.9	20
30	11	21	9.8	6.8	---	4.2	5.2	16	108	7.9	6.2	18
31	10	---	9.8	6.4	---	4.2	---	13	---	26	6.1	---
TOTAL	448.1	551.4	383.6	251.2	170.8	156.4	134.3	846.8	9100.6	1176.8	671.4	341.3
MEAN	14.5	18.4	12.4	8.10	6.10	5.05	4.48	27.3	303	38.0	21.7	11.4
MAX	27	24	20	9.8	10	7.4	5.2	203	1700	291	77	26
MIN	8.1	9.8	8.4	6.4	4.9	4.2	4.0	6.1	5.5	6.9	6.1	5.5
AC-FT	889	1090	761	498	339	310	266	1680	18050	2330	1330	677

CAL YR 1980 TOTAL 149682.1 MEAN 409 MAX 4190 MIN 5.4 AC-FT 296900
WTR YR 1981 TOTAL 14232.7 MEAN 39.0 MAX 1700 MIN 4.0 AC-FT 28230

06752280 CACHE LA POUDRE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT									
21...	1200	13	1410	1410	8.2	11.0	12.3	600	150
NOV									
19...	1530	23	1020	1010	7.6	9.0	9.4	390	98
DEC									
19...	1045	10	866	869	8.0	1.0	9.5	390	100
JAN									
21...	1400	6.6	2040	2000	8.2	4.0	13.4	1000	260
FEB									
19...	1315	5.6	2080	1950	8.0	8.5	13.4	1000	260
MAR									
25...	1430	4.8	2160	2130	8.3	13.0	13.3	1100	270
APR									
22...	1415	4.7	2200	2160	8.4	16.5	13.6	1100	280
MAY									
20...	1420	7.9	2160	2090	8.3	14.5	12.8	1100	270
JUN									
17...	1320	5.5	1800	1790	8.3	23.0	12.4	900	230
JUL									
15...	1440	8.5	1980	1990	8.2	28.0	13.9	1000	260
AUG									
13...	1530	7.4	1980	2030	8.3	26.0	13.3	970	240
SEP									
01...	1500	5.9	2120	2110	8.2	24.0	13.2	1100	270

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT									
21...	55	62	1.1	4.6	200	500	22	.9	9.7
NOV									
19...	35	56	1.2	6.6	160	300	23	1.1	13
DEC									
19...	34	32	.7	2.1	260	180	18	.8	12
JAN									
21...	88	110	1.5	4.7	220	930	40	1.1	10
FEB									
19...	88	94	1.3	5.3	220	940	28	.9	9.1
MAR									
25...	98	110	1.5	5.8	190	1000	44	1.0	6.4
APR									
22...	130	120	1.6	6.6	160	1100	35	1.0	4.9
MAY									
20...	97	110	1.5	7.2	200	1000	34	.9	6.6
JUN									
17...	79	90	1.3	5.4	170	870	26	.9	7.5
JUL									
15...	94	110	1.5	8.9	180	970	35	.9	9.8
AUG									
13...	91	100	1.4	6.4	180	920	31	1.0	9.1
SEP									
01...	100	110	1.5	6.8	170	990	30	.9	11

06752280 CACHE LA POUDRE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)
OCT 21...	434	1.2	33.2	3.10	.043	3.1	.060	.44	.040
NOV 19...	671	.91	41.7	9.20	.160	9.4	.270	1.60	2.40
DEC 19...	544	.74	14.7	1.90	.030	1.9	.050	1.30	.110
JAN 21...	1540	2.1	28.3	4.00	.040	4.0	.120	1.30	.040
FEB 19...	1570	1.5	17.7	3.40	.040	3.4	.150	.71	.040
MAR 25...	1660	2.2	21.5	3.40	.040	3.4	.090	1.46	.030
APR 22...	1750	2.3	22.2	2.20	.040	2.2	.060	1.30	.020
MAY 20...	1660	2.2	35.4	2.10	.040	2.1	.120	1.30	.040
JUN 17...	1420	1.9	21.1	1.50	.050	1.5	.180	1.10	.030
JUL 15...	1620	2.2	37.2	4.10	.060	4.2	.030	1.40	.020
AUG 13...	1520	2.0	30.4	2.40	.000	2.4	.170	1.20	.000
SEP 01...	1630	2.2	26.0	2.90	.080	3.0	.120	1.40	.020

06752280 CACHE LA POUDRE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
OCT									
21...	60	--	--	0	4	--	7	--	<10
NOV									
19...	--	2	100	0	0	1	4	250	30
DEC									
19...	60	--	--	0	0	--	3	--	<10
JAN									
21...	100	--	--	0	2	--	4	--	<10
FEB									
19...	--	1	100	0	10	0	4	320	60
MAR									
25...	<10	--	--	0	4	--	3	--	30
APR									
22...	300	--	--	0	0	--	5	--	60
MAY									
29...	--	1	100	0	10	18	4	330	60
JUN									
17...	40	--	--	0	4	--	5	--	20
JUL									
15...	320	--	--	0	8	--	4	--	10
AUG									
13...	--	1	100	0	0	1	5	150	20
SEP									
01...	150	--	--	1	7	--	3	--	50

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT									
21...	3	--	90	--	--	--	--	0	20
NOV									
19...	5	50	40	.0	5	4	6	0	30
DEC									
19...	4	--	30	--	--	--	--	0	20
JAN									
21...	7	--	50	--	--	--	--	0	10
FEB									
19...	8	90	60	.0	5	4	15	0	20
MAR									
25...	4	--	70	--	--	--	--	0	10
APR									
22...	2	--	70	--	--	--	--	0	10
MAY									
29...	6	130	50	.1	8	19	12	0	20
JUN									
17...	2	--	60	--	--	--	--	0	10
JUL									
15...	7	--	20	--	--	--	--	0	10
AUG									
13...	6	110	20	.1	7	2	11	0	40
SEP									
01...	14	--	40	--	--	--	--	0	10

06752280 CACHE LA POUDRE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
MAY 20...	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP 01...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
MAY 20...	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP 01...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 20...	.00	.00	.00	.00	.00	.00	.02	.00	.00
SEP 01...	.00	.00	.00	.00	.00	.00	.03	.00	.00

06752500 CACHE LA POUDRE RIVER NEAR GREELEY, CO

LOCATION.--Lat 40°25'04", long 104°38'22", in NW¼ sec.11, T.5 N., R.65 W., Weld County, Hydrologic Unit 10190007, on right bank 25 ft (8 m) downstream from highway bridge, 2.9 mi (4.7 km) east of courthouse in Greeley, and 3.0 mi (4.8 km) upstream from mouth.

DRAINAGE AREA.--1,877 mi² (4,861 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to October 1903, August to November 1904, January 1914 to December 1919, June 1924 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1440: 1935, 1938(M), 1942-43. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,610 ft (1,405 m), from topographic map. See WSP 1710 or 1730 for history of changes prior to Dec. 14, 1933.

REMARKS.--Records good. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, diversion for municipal supply, diversions above station for irrigation of about 250,000 acres (1,010 km²), and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--62 years (water years 1915-19, 1925-81), 114 ft³/s (3.228 m³/s), 82,590 acre-ft/yr (102 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,220 ft³/s (120 m³/s) June 24, 26, 1917; minimum daily, 0.8 ft³/s (0.023 m³/s) Oct. 3, 1946.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,880 ft³/s (53.2 m³/s) at 0100 June 9, gage height, 5.89 ft (1.795 m); minimum daily, 9.0 ft³/s (0.255 m³/s) Apr. 30, May 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	116	124	34	90	86	81	9.0	155	14	14	53
2	97	114	130	33	82	86	78	10	167	13	15	57
3	81	111	131	34	100	96	98	14	214	16	16	74
4	62	110	131	34	98	123	98	20	481	25	17	62
5	57	114	128	35	103	118	94	27	755	21	13	58
6	58	121	124	34	113	106	94	34	1250	12	12	57
7	63	123	121	36	103	103	94	44	1380	14	12	59
8	81	119	121	37	102	100	88	40	1640	13	13	62
9	92	106	121	37	103	103	78	36	1550	15	40	51
10	91	114	119	39	71	100	74	30	912	23	54	58
11	68	135	121	36	86	96	72	32	467	12	38	57
12	68	126	114	34	92	92	71	34	295	13	34	48
13	71	119	110	36	96	94	72	36	180	34	37	35
14	88	113	108	37	97	92	72	34	118	37	33	36
15	108	116	106	36	98	92	71	31	88	17	34	52
16	157	128	102	57	102	92	66	29	63	27	33	74
17	159	126	102	108	97	100	64	79	44	26	33	54
18	163	124	97	100	96	102	70	105	30	23	38	58
19	163	123	92	110	94	98	78	77	23	22	33	53
20	161	124	90	103	92	98	78	64	20	22	25	52
21	165	119	96	103	91	106	66	58	16	25	28	40
22	161	118	86	106	88	103	59	44	15	18	27	43
23	159	123	57	111	90	94	35	36	13	14	34	40
24	159	123	33	110	96	90	20	31	14	14	29	52
25	157	121	33	106	96	92	12	32	14	22	29	53
26	147	124	45	102	97	92	10	42	18	74	35	50
27	146	119	38	100	96	92	12	48	18	88	39	47
28	146	121	36	106	90	97	12	221	12	53	42	45
29	142	119	34	102	---	92	10	443	12	40	42	53
30	128	119	35	100	---	88	9.0	182	12	25	36	51
31	123	---	34	103	---	85	---	157	---	15	36	---
TOTAL	3618	3588	2819	2159	2659	3008	1836.0	2079.0	9976	787	921	1584
MEAN	117	120	90.9	69.6	95.0	97.0	61.2	67.1	333	25.4	29.7	52.8
MAX	165	135	131	111	113	123	98	443	1640	88	54	74
MIN	57	106	33	33	71	85	9.0	9.0	12	12	12	35
AC-FT	7180	7120	5590	4280	5270	5970	3640	4120	19790	1560	1830	3140

CAL YR 1980 TOTAL 184435.0 MEAN 504 MAX 3880 MIN 22 AC-FT 365800
WTR YR 1981 TOTAL 35034.0 MEAN 96.0 MAX 1640 MIN 9.0 AC-FT 69490

06752500 CACHE LA POUDRE RIVER NEAR GREELEY, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1951 to September 1952, August 1954 to August 1956, December 1963 to September 1966, October 1967 to September 1968, October 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT								
21...	1430	165	1690	1640	8.1	12.5	9.2	700
NOV								
19...	0900	121	1950	1735	7.7	3.5	9.0	720
DEC								
16...	0910	100	1840	1870	7.3	5.0	9.2	790
JAN								
21...	0845	100	1980	1930	7.9	1.5	10.8	860
FEB								
18...	1650	94	1900	1810	8.2	8.5	11.4	780
MAR								
25...	0830	91	2140	1980	7.9	6.0	9.4	890
APR								
22...	1045	57	1980	1910	8.3	12.5	9.7	880
MAY								
20...	0900	57	1890	1810	7.9	11.0	7.8	810
JUN								
16...	1650	43	1580	1580	7.8	21.5	6.7	720
JUL								
14...	1720	22	1580	1570	7.9	25.5	10.2	650
AUG								
11...	1635	33	1600	1560	7.9	23.0	10.0	650
SEP								
03...	0900	77	1500	1500	7.7	17.0	7.8	620

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT									
21...	140	84	120	2.0	8.0	260	630	39	1.0
NOV									
19...	150	84	120	1.9	10	280	650	42	1.0
DEC									
16...	160	95	130	2.0	9.0	300	680	46	1.0
JAN									
21...	180	100	140	2.1	7.8	280	770	44	1.1
FEB									
18...	170	87	120	1.9	7.2	280	680	42	.9
MAR									
25...	190	100	140	2.0	6.5	270	830	43	--
APR									
22...	190	99	140	2.1	8.6	260	780	41	.9
MAY									
20...	170	93	150	2.3	10	--	720	47	.7
JUN									
16...	160	77	100	1.6	4.1	240	630	34	.7
JUL									
14...	140	74	110	1.9	8.2	220	630	37	.7
AUG									
11...	144	71	110	2.1	8.5	260	540	39	.7
SEP									
03...	131	72	100	1.9	7.6	220	560	35	.6

06752500 CACHE LA POUDRE RIVER NEAR GREELEY, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT								
21...	9.2	1210	1.6	539	4.9	.400	10	110
NOV								
19...	12	1270	1.7	415	6.9	.820	20	170
DEC								
16...	9.5	1330	1.8	359	4.4	.700	10	190
JAN								
21...	13	1450	1.9	391	6.2	.530	20	200
FEB								
18...	12	1310	1.0	190	6.0	.960	60	180
MAR								
25...	9.9	1510	2.0	371	6.0	.450	40	190
APR								
22...	9.6	1450	1.9	223	5.0	.610	30	210
MAY								
20...	13	1220	1.6	188	6.1	.560	50	240
JUN								
16...	12	1180	1.6	137	4.9	1.10	10	240
JUL								
14...	12	1160	1.5	68.9	4.2	.560	10	180
AUG								
11...	12	1100	1.5	98.0	3.5	.000	<10	220
SEP								
03...	9.8	1070	1.4	222	4.3	.480	12	110

06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO

LOCATION.--Lat 40°24'44", long 104°33'46", in NW¼SW¼ sec.9, T.5 N., R.64 W., Weld County, Hydrologic Unit 10190003, on downstream side of bridge on State Highway 37, 1.9 mi (3.1 km) north of railroad in Kersey, and 2.5 mi (4.0 km) downstream from Cache la Poudre River.

DRAINAGE AREA.--9,598 mi^2 (24,859 km^2).

PERIOD OF RECORD.--May 1901 to December 1903, March 1905 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "at Kersey" 1901-3.

REVISED RECORDS.--WSP 1310: 1902, 1906, 1935(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,575.77 ft (1,394.695 m) National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to July 3, 1935.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 888,000 acres (3,590 km^2), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--71 years (water years 1902-03, 1906-74), 777 ft^3/s (22.00 m^3/s), 562,900 acre-ft/yr (694 hm^3/yr), prior to completion of Chatfield Dam; 7 years (water years 1975-81), 1,013 ft^3/s (28.69 m^3/s), 733,900 acre-ft/yr (905 hm^3/yr), subsequent to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,500 ft^3/s (892 m^3/s) May 8, 1973, gage height, 11.73 ft (3.575 m); minimum daily, 28 ft^3/s (0.79 m^3/s) Apr. 30, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,100 ft^3/s (87.8 m^3/s) at 0330 June 4, gage height, 5.40 ft (1.646 m); minimum daily, 64 ft^3/s (1.81 m^3/s) May 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	583	661	861	728	629	519	764	106	1480	123	373	280
2	577	677	852	726	560	530	674	64	1280	194	380	286
3	560	659	901	711	615	558	690	95	1030	121	358	329
4	534	636	920	695	666	698	815	502	2640	145	345	352
5	524	686	888	678	674	809	887	829	2400	150	345	347
6	495	695	847	692	668	953	790	529	2530	119	340	360
7	459	704	788	701	661	952	738	450	2420	121	345	366
8	495	707	751	715	633	894	722	383	2470	121	355	393
9	496	655	757	730	670	858	690	360	2230	122	332	397
10	500	641	792	707	515	811	666	326	1530	146	272	378
11	476	661	821	684	560	796	615	312	902	148	326	367
12	487	685	815	648	615	758	608	285	550	134	328	395
13	497	669	788	655	690	746	522	267	337	171	340	420
14	511	793	739	685	772	734	400	386	232	291	333	396
15	574	900	733	686	754	715	360	393	185	219	320	385
16	725	886	732	706	717	671	340	320	172	198	313	413
17	835	838	763	729	684	666	296	488	162	250	323	430
18	816	821	761	670	671	637	273	1360	147	241	330	435
19	774	837	744	683	657	650	278	1510	124	255	292	455
20	738	833	726	673	649	727	310	1050	109	210	249	429
21	749	817	703	674	636	720	330	790	101	182	241	387
22	734	821	699	696	633	795	385	621	97	169	227	357
23	709	815	712	711	639	851	315	502	97	142	220	343
24	686	834	710	711	637	741	251	404	95	137	237	305
25	690	880	705	697	610	695	212	355	93	138	226	322
26	688	878	756	670	595	653	180	322	97	258	327	345
27	668	881	741	652	574	640	150	322	100	612	278	352
28	664	860	720	665	541	651	135	662	98	810	273	355
29	666	850	699	692	---	788	107	2010	99	513	270	350
30	669	864	699	696	---	1040	82	2080	109	265	260	341
31	669	---	737	698	---	901	---	1510	---	231	256	---
TOTAL	19248	23144	23860	21464	17925	23157	13585	19593	23916	6936	9414	11070
MEAN	621	771	770	692	640	747	453	632	797	224	304	369
MAX	835	900	920	730	772	1040	887	2080	2640	810	380	455
MIN	459	636	699	648	515	519	82	64	93	119	220	280
AC-FT	38180	45910	47330	42570	35550	45930	26950	38860	47440	13760	18670	21960

CAL YR 1980 TOTAL 905466 MEAN 2474 MAX 16800 MIN 286 AC-FT 1796000
WTR YR 1981 TOTAL 213312 MEAN 584 MAX 2640 MIN 64 AC-FT 423100

06756995 SOUTH PLATTE RIVER AT MASTERS, CO

LOCATION.--Lat 40°18'22", long 104°14'40", in SE¼ sec.18, T.4 N., R.61 W., Weld County, Hydrologic Unit 10190003, on right bank at bridge on Weld County Road 87, 1.0 mi (1.6 km) north of U.S. Highway 34 at Masters.

DRAINAGE AREA.--12,119 mi² (31,595 km²).

PERIOD OF RECORD.--December 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,450 ft (1,356 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Natural flow of stream affected by transmountain, transbasin, and storage diversions, power developments, ground-water withdrawals and diversions for irrigation, and return flows from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft³/s (428 m³/s) May 2, 1980, gage height, 10.06 ft (3.066 m); minimum daily, 3.5 ft³/s (0.099 m³/s) Mar. 16, 18, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, unknown; minimum daily, 52 ft³/s (1.47 m³/s) Jan. 25-Feb. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	232	572	554	386	52	100	524	132	978	146	138	305
2	218	542	524	366	52	100	441	127	867	242	190	326
3	228	470	488	366	69	104	432	124	819	214	190	348
4	228	448	482	371	100	114	437	232	1500	168	174	376
5	221	448	476	400	102	109	448	164	1750	162	165	390
6	292	459	459	390	102	253	437	72	1700	146	155	405
7	334	470	442	390	102	415	426	60	1600	121	135	405
8	352	470	437	390	102	386	432	58	1500	124	200	386
9	357	459	437	390	102	371	420	68	1350	155	225	400
10	352	454	437	386	75	362	415	71	795	165	270	357
11	357	494	442	381	156	352	410	65	470	165	275	317
12	348	554	448	386	357	326	405	60	292	168	313	317
13	345	554	448	437	494	313	390	80	204	168	313	339
14	340	584	437	437	610	305	348	93	132	214	317	344
15	340	648	437	442	530	296	309	98	104	238	317	317
16	340	697	437	448	448	288	242	91	177	210	321	326
17	360	690	448	437	200	272	303	93	165	228	317	339
18	420	648	448	454	132	246	362	93	140	253	317	339
19	510	616	442	482	116	235	362	253	130	250	305	362
20	525	603	437	432	114	224	371	143	114	253	296	371
21	540	572	437	400	109	228	381	114	93	221	280	344
22	415	566	437	190	107	238	395	140	85	194	269	309
23	405	566	437	162	107	432	386	116	84	187	261	276
24	400	560	437	96	102	432	357	146	84	162	265	221
25	395	572	437	52	100	426	334	143	100	165	272	102
26	400	572	437	52	100	432	261	109	109	190	300	100
27	395	572	437	52	100	432	265	104	111	370	330	100
28	395	560	437	52	100	432	235	135	124	536	330	100
29	395	554	432	52	---	437	204	758	132	530	330	102
30	395	560	420	52	---	553	149	1380	135	344	334	95
31	385	---	390	52	---	554	---	1280	---	146	321	---
TOTAL	11219	16534	13898	9383	4840	9767	10881	6602	15844	6835	8225	8818
MEAN	362	551	448	303	173	315	363	213	528	220	265	294
MAX	540	697	554	482	610	554	524	1380	1750	536	334	405
MIN	218	448	390	52	52	100	149	58	84	121	135	95
AC-FT	22250	32800	27570	18610	9600	19370	21580	13100	31430	13560	16310	17490

CAL YR 1980	TOTAL	727586	MEAN	1988	MAX	14000	MIN	218	AC-FT	1443000
WTR YR 1981	TOTAL	122846	MEAN	337	MAX	1750	MIN	52	AC-FT	243700

NOTE.--NO GAGE-HEIGHT RECORD JUNE 4-8.

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO

LOCATION.--Lat 40°19'19", long 103°55'17", in SW¼SW¼ sec.7, T.4 N., R.58 W., Morgan County, Hydrologic Unit 10190003, on left bank 400 ft (120 m) downstream from bridge on State Highway 144, 2.8 mi (4.5 km) southeast of Weldona, and 4.2 mi (6.8 km) upstream from Bijou Creek.

DRAINAGE AREA.--13,245 mi² (34,305 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1710: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,307.80 ft (1,313.017 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--22 years (water years 1953-74), 572 ft³/s (16.20 m³/s), 414,400 acre-ft/yr (511 hm³/yr), prior to completion of Chatfield Dam. 6 years (water years 1976-81), 686 ft³/s (19.43 m³/s), 497,000 acre-ft/yr (613 hm³/yr), subsequent to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,800 ft³/s (759 m³/s) May 8, 1973, gage height, 11.68 ft (3.560 m), from rating curve extended above 16,000 ft³/s (453 m³/s); minimum daily, 39 ft³/s (1.10 m³/s) May 19, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,880 ft³/s (53.2 m³/s) at 1600 June 5, gage height, 5.24 ft (1.597 m); minimum daily, 75 ft³/s (2.12 m³/s) May 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	318	477	606	419	147	256	766	126	1270	147	108	166
2	295	621	597	416	140	218	719	111	1210	164	119	158
3	288	563	572	417	154	186	564	112	1120	217	128	187
4	285	550	560	408	170	218	626	121	1130	199	108	250
5	274	542	566	407	173	210	663	196	1820	171	127	288
6	270	550	558	397	172	209	685	135	1850	167	150	300
7	334	558	551	392	171	399	620	95	1790	160	145	329
8	338	545	528	396	177	392	592	83	1650	143	151	334
9	337	548	515	401	170	355	489	78	1520	138	211	321
10	273	543	509	405	140	337	542	77	1230	145	299	324
11	272	547	523	402	150	326	537	75	749	139	352	273
12	274	586	537	389	300	318	512	75	522	138	321	271
13	293	607	539	444	552	302	499	77	351	146	366	295
14	297	615	525	493	705	290	457	81	237	145	385	305
15	301	660	511	520	705	281	406	87	155	157	383	299
16	317	735	504	529	616	274	361	93	91	197	344	280
17	360	737	510	516	482	271	312	102	133	176	352	315
18	424	721	522	517	327	259	351	104	105	190	308	316
19	476	715	512	579	296	248	389	99	105	189	286	315
20	494	716	513	572	287	242	395	168	99	183	275	326
21	507	677	503	486	250	258	426	114	100	181	264	315
22	441	657	491	404	244	249	412	102	147	160	266	288
23	420	658	486	316	241	332	423	105	120	153	264	253
24	408	644	477	282	255	499	388	97	120	146	234	240
25	403	634	480	238	272	520	363	120	125	188	160	207
26	397	646	482	201	285	502	367	113	133	166	167	156
27	392	645	491	191	293	542	361	98	138	209	211	137
28	385	632	480	194	294	601	348	97	144	409	223	134
29	382	619	462	175	---	632	265	160	146	459	228	125
30	381	604	448	142	---	673	197	1080	139	380	227	120
31	368	---	416	142	---	791	---	1490	---	171	173	---
TOTAL	11004	18552	15974	11790	8168	11190	14035	5671	18449	5933	7335	7627
MEAN	355	618	515	380	292	361	468	183	615	191	237	254
MAX	507	737	606	579	705	791	766	1490	1850	459	385	334
MIN	270	477	416	142	140	186	197	75	91	138	108	120
AC-FT	21830	36800	31680	23390	16200	22200	27840	11250	36590	11770	14550	15130

CAL YR 1980 TOTAL 691698 MEAN 1890 MAX 14700 MIN 204 AC-FT 1372000
WTR YR 1981 TOTAL 135728 MEAN 372 MAX 1850 MIN 75 AC-FT 269200

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1967 to September 1968, October 1971 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: March 1977 to March 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 4,000 mg/L May 3, 1977; minimum daily, 8 mg/L Oct. 14, 1977.
SEDIMENT LOADS: Maximum daily, 11,400 tons (10,300 t) May 3, 1977; minimum daily, 1.9 tons (1.7 t) Apr. 12, 1978.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT									
22...	1130	428	1740	1660	8.3	9.0	9.6	600	130
NOV									
18...	1120	659	1440	1590	7.8	2.5	10.9	530	120
DEC									
16...	1200	591	1600	1620	7.8	5.5	10.2	570	130
JAN									
20...	1200	556	1620	1620	8.3	3.0	10.8	600	140
FEB									
18...	1230	316	1800	1670	8.3	8.0	9.8	610	150
MAR									
24...	1240	529	1650	1580	8.2	8.5	10.1	550	130
APR									
21...	1345	418	1810	1660	8.5	19.0	9.8	640	150
MAY									
19...	1420	93	1710	1700	8.6	19.0	11.2	630	150
JUN									
16...	1230	148	1700	1670	8.3	22.5	6.7	610	150
JUL									
14...	1315	145	1710	1760	8.6	29.0	9.9	570	110
AUG									
11...	1250	303	1710	1740	8.4	23.0	8.6	590	123
SEP									
04...	1220	248	1790	1730	8.4	21.0	9.3	640	142

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT									
22...	67	160	2.8	8.1	260	600	68	1.0	13
NOV									
18...	57	150	2.8	8.6	250	510	66	1.0	14
DEC									
16...	59	150	2.7	7.6	250	520	74	1.1	14
JAN									
20...	58	150	2.7	6.8	240	540	77	1.2	14
FEB									
18...	57	150	2.6	6.7	250	570	72	.9	15
MAR									
24...	54	150	2.8	7.3	270	510	77	1.0	12
APR									
21...	54	150	2.6	7.6	240	590	66	1.0	11
MAY									
19...	63	190	3.3	7.8	240	660	74	.9	14
JUN									
16...	59	150	2.6	7.6	230	620	70	.9	15
JUL									
14...	71	180	3.3	9.3	170	680	85	1.0	9.0
AUG									
11...	69	170	3.4	8.1	200	620	75	1.0	11
SEP									
04...	70	180	3.9	8.1	240	640	67	.9	12

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	ALGAL GROWTH POTENTIAL, BOTTLE TEST (MG/L)
OCT 22...	1220	1.6	1410	4.1	.250	<10	10	--
NOV 18...	1100	1.5	2050	5.0	.680	<10	20	--
DEC 16...	1130	1.5	1530	6.4	.660	<10	20	--
JAN 20...	1160	1.5	1770	5.6	.750	20	40	--
FEB 18...	1190	.90	555	4.3	.350	<10	30	--
MAR 24...	1100	1.5	1570	5.2	.640	20	10	--
APR 21...	1200	1.6	1350	3.4	.380	<10	10	22
MAY 13...	1320	1.8	331	2.8	.150	10	30	19
JUN 16...	1220	1.6	488	3.1	.260	<10	70	--
JUL 14...	1260	1.7	493	1.7	.090	<10	20	27
AUG 11...	1210	1.6	1190	2.1	.000	<10	10	10
SEP 04...	1250	1.7	844	3.3	.090	<10	8	--

06759100 BIJOU CREEK NEAR FORT MORGAN, CO

LOCATION.--Lat 40°16'58", long 103°52'31", in NW¼SE¼ sec.28, T.4 N., R.58 W., Morgan County, Hydrologic Unit 10190011, on left bank 1,000 ft (305 m) downstream from bridge on State Highway 144, 0.8 mi (1.3 km) upstream from South Platte River, and 4.0 mi (6.4 km) northwest of Fort Morgan.

DRAINAGE AREA.--1,500 mi^2 (3,885 km^2).

PERIOD OF RECORD.--December 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,302 ft (1,311 m), from topographic map.

REMARKS.--Records fair. Natural flow of stream affected by delivery of stored water from Bijou No. 2 reservoir to South Platte River past the gage, and waste flows from Fort Morgan Canal, which crosses 1.5 mi (2.4 km) upstream. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,200 ft^3/s (62.3 m^3/s) July 26, 1977, gage height, 6.01 ft (1.832 m) from floodmark, from rating curve extended above 58 ft^3/s (1.6 m^3/s), on basis of slope-area measurement of peak flow; minimum daily, 4.8 ft^3/s (0.14 m^3/s) Oct. 2-4, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 70 ft^3/s (1.98 m^3/s) at 0100 May 4, gage height, 2.07 ft (0.631 m); minimum daily, 7.1 ft^3/s (0.20 m^3/s) Aug. 14, 15, Sept. 5-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	8.8	8.8	9.2	8.4	37	19	62	19	10	14	8.0
2	8.8	8.8	8.8	9.2	9.6	42	19	62	18	10	14	8.0
3	8.4	9.2	8.8	9.6	8.8	40	18	64	18	10	13	7.6
4	8.8	9.2	8.8	9.6	8.4	41	17	65	18	18	12	7.3
5	8.8	9.2	8.8	9.6	8.4	39	18	63	17	44	12	7.1
6	9.2	9.2	8.8	9.6	8.4	41	18	56	16	48	11	7.1
7	9.2	9.0	8.4	10	8.0	43	18	62	16	50	10	7.1
8	9.6	9.0	8.8	10	8.4	42	16	51	16	51	10	7.3
9	9.6	9.0	8.4	10	8.4	37	12	46	17	52	9.6	7.3
10	9.6	9.0	8.8	10	7.6	20	12	46	17	51	9.6	7.3
11	9.6	9.0	9.2	10	8.0	20	12	43	16	51	8.4	7.4
12	9.6	9.0	8.8	10	7.6	20	12	41	16	51	7.6	7.4
13	9.6	9.0	8.8	10	8.0	20	12	44	14	51	7.3	7.4
14	9.6	9.0	8.8	10	7.6	20	11	42	12	49	7.1	7.4
15	11	9.2	8.8	11	9.2	20	11	26	12	44	7.1	7.4
16	15	9.2	8.8	11	10	20	11	22	11	40	7.6	7.5
17	15	9.2	8.4	10	13	20	10	18	11	36	8.4	7.5
18	11	9.2	8.8	10	13	20	11	15	11	34	8.4	7.5
19	9.6	8.8	8.8	10	12	20	12	13	10	30	8.0	7.5
20	9.6	8.8	8.8	10	14	20	11	12	10	26	8.0	7.5
21	9.6	8.4	8.4	9.2	12	20	10	12	10	18	8.0	7.6
22	9.6	8.4	8.8	8.8	12	20	10	12	11	13	8.0	7.6
23	9.2	8.4	8.8	8.8	12	20	10	12	11	14	8.0	7.6
24	8.0	8.4	8.4	8.8	14	20	10	12	11	15	8.0	7.6
25	8.8	8.4	8.8	8.4	8.0	21	10	12	10	14	8.0	7.6
26	8.8	8.4	9.2	7.6	25	20	11	12	11	13	8.0	7.7
27	8.8	8.4	9.2	7.6	36	20	11	12	10	13	8.4	7.7
28	8.8	8.8	8.8	7.6	36	20	11	12	11	14	8.4	7.7
29	8.4	8.8	8.8	8.0	---	20	30	16	11	15	8.0	7.7
30	10	8.8	9.2	10	---	19	59	15	10	13	8.0	7.7
31	8.8	---	9.2	8.0	---	19	---	16	---	14	8.0	---
TOTAL	299.2	266.0	272.8	291.6	341.8	801	452	996	401	912	281.9	225.1
MEAN	9.65	8.87	8.80	9.41	12.2	25.8	15.1	32.1	13.4	29.4	9.09	7.50
MAX	15	9.2	9.2	11	36	43	59	65	19	52	14	8.0
MIN	8.0	8.4	8.4	7.6	7.6	19	10	12	10	10	7.1	7.1
AC-FT	593	528	541	578	678	1590	897	1980	795	1810	559	446

CAL YR 1980 TOTAL 6445.4 MEAN 17.6 MAX 112 MIN 7.4 AC-FT 12780
WTR YR 1981 TOTAL 5540.4 MEAN 15.2 MAX 65 MIN 7.1 AC-FT 10990

RESERVOIRS IN SOUTH PLATTE RIVER BASIN

06695500 ELEVENMILE CANYON RESERVOIR.--Lat 38°54'19", long 105°28'30", in N½SW¼ sec.20, T.13 S., R.72 W., Park County, Hydrologic Unit 10190001, at north end of dam on South Platte River, 8 mi (13 km) southwest of Lake George. DRAINAGE AREA, 963 mi² (2,494 km²). PERIOD OF RECORD, October 1932 to current year. Prior to September 1938, published in WSP 1310. REVISED RECORDS, WSP 1730: Drainage area. GAGE, nonrecording gage read twice daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Denver Board of Water Commissioners); gage readings have been reduced to elevations NGVD.

Reservoir is formed by concrete arch dam; storage began in October 1932; dam completed in November 1932. Spillway built 5.00 ft (1.524 m) higher Aug. 1, 1957. Capacity, 97,780 acre-ft (121 hm³) between elevations 8,488.25 ft (2,587.219 m), invert of outlet pipe, and 8,597.00 ft (2,620.366 m), crest of spillway. Dead storage is negligible. Figures given represent total contents. Water is for municipal use by city of Denver. Records furnished by Denver Board of Water Commissioners.

EXTREMES FOR PERIOD OF RECORD: Maximum contents observed, 111,200 acre-ft (137 hm³) Apr. 28, 1970, elevation, 8,600.82 ft (2,621.530 m); no contents at times in 1935.

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 98,090 acre-ft (121 hm³) Mar. 15, elevation, 8,597.09 ft (2,620.393 m); minimum observed, 95,430 acre-ft (118 hm³) Sept. 28-31, elevation, 8,596.30 ft (2,620.152 m).

06701000 CHEESMAN LAKE.--Lat 39°12'26", long 105°16'18", in NW¼SW¼ sec.6, T.10 S., R.70 W., Douglas County, Hydrologic Unit 10190002, at dam on South Platte River, 4.1 mi (6.6 km) southwest of Deckers. DRAINAGE AREA, 1,752 mi² (4,538 km²). PERIOD OF RECORD, September 1900 to December 1901, September 1902 to current year. Prior to October 1938, published in WSP 1310. Published as Lake Cheesman prior to 1947. REVISED RECORDS, WSP 1730: Drainage area. GAGE, nonrecording gage read twice daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Denver Board of Water Commissioners).

Reservoir is formed by masonry dam. Storage began September 1900. Dam completed about October 1902. Capacity, 79,060 acre-ft (97.5 hm³) at gage height 212 ft (64.4 m), spillway crest, above sill of lowest gate. No dead storage. Figures given represent total contents. Water is for municipal use by city of Denver. Records furnished by Denver Board of Water Commissioners.

EXTREMES FOR PERIOD OF RECORD: Maximum contents observed, 81,360 acre-ft (100 hm³) Apr. 29, 1970, gage height, 214.60 ft (65.410 m); minimum observed since appreciable storage was attained, 3,650 acre-ft (4.50 hm³) Apr. 20, 1933, gage height, 55.02 ft (16.770 m).

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 79,070 acre-ft (97.5 hm³) Mar. 31, gage height, 212.02 ft (64.624 m); minimum observed, 63,400 acre-ft (78.2 hm³) Sept. 30, gage height, 192.85 ft (58.781 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
	06695500 ELEVENMILE CANYON RESERVOIR			06701000 CHEESMAN RESERVOIR		
Sept. 30	8,596.65	96,600		200.55	69,440	-
Oct. 31	8,596.62	96,500	-100	200.00	69,000	-440
Nov. 30	8,596.62	96,500	0	201.70	70,380	+1,380
Dec. 31	8,596.63	96,540	+40	206.18	74,080	+3,700
CAL YR 1980			-1,380			+4,720
Jan. 31	8,596.62	96,500	-40	207.83	75,470	+1,390
Feb. 28	8,596.84	97,240	+740	207.40	75,110	-360
Mar. 31	8,597.00	97,780	+540	212.01	79,070	+3,960
Apr. 30	8,596.90	97,440	-340	201.20	69,970	-9,100
May 31	8,596.63	96,540	-900	201.04	69,840	-130
June 30	8,596.79	97,070	+530	203.35	71,730	+1,890
July 31	8,596.38	95,700	-1,370	204.51	72,690	+960
Aug. 31	8,596.48	96,030	+330	201.46	70,180	-2,510
Sept. 30	8,596.30	95,430	-600	192.85	63,400	-6,780
WTR YR 1981			-1,170			-6,040

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO

LOCATION.--Lat 40°58'46", long 102°15'15", in NW¼NE¼ and SE¼NE¼ (two channels) sec.33, T.12 N., R.44 W., Sedgwick County, Hydrologic Unit 10190018, on left bank of channel 4 (left channel) 215 ft (66 m) downstream from bridge, and on right bank of channel 2, 800 ft (244 m) downstream from bridge on U.S. Highway 385, 0.9 mi (1.4 km) southeast of Julesburg, 3.0 mi (4.8 km) upstream from Colorado-Nebraska State line, and 8 mi (13 km) downstream from Lodgepole Creek.

DRAINAGE AREA.--23,138 mi^2 (59,927 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1902 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "near Julesburg" 1903-8, 1915-16, and as "at Ovid" 1922-24.

REVISED RECORDS.--WSP 1310: 1902, 1906-7, 1948(P). WSP 1440: 1903-4. WSP 1730: Drainage area.

GAGE.--Two water-stage recorders. Datum of gages is 3,446.76 ft (1,050.572 m) National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1956. Since Oct. 1, 1956, water-stage recorders on channels nos. 2 and 4. Channel no. 2: Oct. 1, 1956, to Sept. 22, 1965, at site 300 ft (91 m) downstream at present datum. Channel no. 4: Oct. 1, 1956, to Dec. 10, 1958, at site 135 ft (41 m) downstream at present datum. Since May 11, 1973, supplementary water-stage recorder on channel no. 2 at bridge 800 ft (244 m) upstream at same datum.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of 1,200,000 acres (4,940 km^2) above station, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--79 years, 491 ft^3/s (13.91 m^3/s), 355,700 acre-ft/yr (439 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,600 ft^3/s (1,060 m^3/s) June 20, 1965, gage height, 10.44 ft (3.182 m), from floodmarks in gage well; no flow Aug. 18-20, 1902, July 25 to Aug. 7, 1903.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,900 ft^3/s (53.8 m^3/s) at 0400 June 5, gage height, 5.14 ft (1.567 m); minimum daily, 16 ft^3/s (0.45 m^3/s) Sept. 13, 14, 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116	103	490	596	516	296	433	150	468	41	48	17
2	105	104	474	661	485	291	439	140	776	38	41	21
3	98	104	469	680	500	290	512	133	1150	34	35	23
4	100	104	493	689	460	325	578	143	1380	30	31	24
5	113	103	496	706	500	326	590	137	1720	28	29	23
6	117	103	499	708	520	318	567	149	1450	28	30	22
7	124	106	510	712	470	326	602	191	1610	31	27	23
8	123	113	526	714	430	316	620	202	1790	31	24	18
9	120	117	542	711	250	335	609	210	1780	32	28	21
10	120	160	533	708	190	356	571	209	1510	29	59	21
11	118	215	495	700	195	380	560	212	1290	28	31	22
12	119	256	471	715	250	417	561	233	1210	25	32	19
13	121	285	460	720	350	457	499	246	1020	26	32	16
14	121	296	453	698	420	481	362	287	828	26	29	16
15	115	305	458	697	450	491	294	298	590	25	58	21
16	115	312	454	739	500	463	271	304	481	25	68	19
17	115	321	446	787	531	434	223	362	394	23	98	18
18	113	338	431	811	530	399	195	592	306	20	63	17
19	110	364	398	766	492	329	198	780	227	17	73	16
20	109	395	392	769	458	268	257	694	182	17	98	16
21	107	413	393	777	398	228	275	631	138	19	87	21
22	104	429	450	813	360	203	302	607	108	23	64	27
23	102	449	475	789	341	184	352	558	86	22	49	27
24	98	459	508	766	324	173	378	526	72	22	39	31
25	97	472	546	712	313	170	349	506	66	56	33	29
26	99	473	515	656	304	163	329	500	59	61	29	28
27	99	471	508	613	300	157	315	490	55	135	30	27
28	100	476	499	583	300	182	273	454	48	189	27	26
29	102	481	492	563	---	359	226	390	45	153	25	28
30	104	490	494	564	---	475	181	434	43	117	24	32
31	106	---	497	575	---	465	---	445	---	69	19	---
TOTAL	3410	8817	14867	21698	11137	10057	11921	11213	20882	1420	1360	669
MEAN	110	294	480	700	398	324	397	362	696	45.8	43.9	22.3
MAX	124	490	546	813	531	491	620	780	1790	189	98	32
MIN	97	103	392	563	190	157	181	133	43	17	19	16
AC-FT	6760	17490	29490	43040	22090	19950	23650	22240	41420	2820	2700	1330

CAL YR 1980 TOTAL 667581 MEAN 1824 MAX 12800 MIN 30 AC-FT 1324000
WTR YR 1981 TOTAL 117451 MEAN 322 MAX 1790 MIN 16 AC-FT 233000

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued
(Irrigation network station)
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1945 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1945 to September 1981 (discontinued).
WATER TEMPERATURES: Water years 1945-49, October 1950 to September 1981 (discontinued).

INSTRUMENTATION.--Water-quality monitor from July 1973 to September 1979.

REMARKS.--Specific-conductance and temperature data obtained on channel no. 2 (station 06763990).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 3,270 micromhos Jan. 12, 1971; minimum daily, 348 micromhos Aug. 15, 1968.
WATER TEMPERATURES: Maximum, 36.0ºC July 17, 19, 1977, July 16, 1978; minimum, freezing point on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,260 micromhos Feb. 11; minimum daily, 1,230 micromhos May 30.
WATER TEMPERATURES: Maximum daily, 30.5ºC July 19; minimum daily, freezing point on several days during December to February.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN DIS-SOLVED (MG/L AS N)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 15...	1135	119	2046	2046	8.1	15.0	.80	9.7	3.0	--	--
NOV 17...	1200	317	1980	1955	8.3	3.0	--	10.2	3.4	K17	137
DEC 17...	0945	375	1920	1960	8.0	3.5	31	10.7	4.2	K14	K53
JAN 19...	1400	782	1980	1893	8.3	1.0	1.0	11.4	5.7	K10	110
FEB 17...	1515	554	2030	1880	8.4	7.5	56	10.3	5.1	1200	130
MAR 23...	1430	179	2180	2000	8.4	14.0	4.6	9.0	3.8	--	K19
APR 20...	1430	265	1900	1820	8.4	11.0	32	9.7	2.3	K6300	K6100
MAY 18...	1500	658	1800	1780	8.3	9.5	850	9.6	2.3	K9100	K26000
JUN 15...	1530	545	1720	1680	8.7	20.0	48	10.3	1.7	3700	K120
JUL 13...	1450	24	1980	1990	8.2	34.0	1.0	11.2	1.5	230	180
AUG 10...	1430	46	2160	2120	8.4	26.0	26	8.0	2.4	K330	K1200
SEP 03...	1430	23	2090	2050	8.4	24.5	2.3	11.0	1.7	K39	K32

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT 15...	720	190	60	200	3.2	16	220	740	91	.7	25
NOV 17...	650	160	61	190	3.2	18	240	750	80	.8	23
DEC 17...	650	160	60	180	3.1	12	250	680	82	.9	21
JAN 19...	710	180	63	180	2.9	11	250	690	80	1.1	20
FEB 17...	690	180	59	170	2.8	13	250	720	76	.8	20
MAR 23...	750	200	60	180	2.9	14	240	780	82	.7	23
APR 20...	660	170	56	180	3.1	17	200	700	75	.7	20
MAY 18...	580	150	50	190	3.4	15	190	680	80	.6	16
JUN 15...	630	160	55	170	3.6	13	190	650	74	.7	18
JUL 13...	680	170	62	190	3.2	23	190	810	99	.6	23
AUG 10...	810	220	64	190	2.9	18	190	830	100	.6	27
SEP 03...	740	190	65	190	3.0	17	150	850	95	.6	24

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 15...	1550	1460	2.1	494	1.7	1.7	.210	.200	.99	1.1	1.20
NOV 17...	1660	1440	2.2	1420	2.2	2.3	.240	.170	.96	.93	1.20
DEC 17...	1510	1360	2.0	1530	3.3	3.3	.060	.070	1.4	.79	1.50
JAN 19...	1420	1390	1.9	3000	4.4	4.4	.420	.450	1.5	.85	1.90
FEB 17...	1430	1410	1.9	2140	3.9	3.9	.180	.210	1.9	.99	2.10
MAR 23...	1530	1500	2.0	739	2.4	2.6	.090	.140	1.0	1.1	1.10
APR 20...	1430	1350	1.9	1020	1.7	1.8	.190	.160	.30	.29	.49
MAY 18...	1360	1300	1.8	2420	1.1	1.1	.110	.110	3.2	1.1	3.30
JUN 15...	1290	1260	1.7	1900	1.1	.93	.100	.020	1.8	.72	1.90
JUL 13...	1550	1490	2.1	100	.54	.57	.070	.030	1.0	.85	1.10
AUG 10...	1650	1570	2.2	205	1.6	1.6	.140	.150	1.3	.69	1.40
SEP 03...	1620	1530	2.2	101	.95	.96	.110	.100	.63	.68	.74

DATE	NITRO-GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)
OCT 15...	.00	1.3	2.9	.080	.050	0	--	13	.4	--
NOV 17...	.10	1.1	3.4	.190	.120	--	16	--	--	21000
DEC 17...	.64	.86	4.8	.180	.170	--	8.3	--	--	--
JAN 19...	.60	1.3	6.3	.360	.310	--	15	--	--	--
FEB 17...	.90	1.2	6.0	.290	.220	--	41	--	--	--
MAR 23...	.00	1.2	3.5	.170	.150	0	--	9.1	.2	--
APR 20...	.04	.45	2.2	.310	.300	--	6.9	--	--	--
MAY 18...	2.1	1.2	4.4	.660	.170	--	40	--	--	43000
JUN 15...	1.2	.74	3.0	.330	.090	0	--	4.2	2.2	130000
JUL 13...	.22	.88	1.6	.080	.050	--	5.8	--	--	14000
AUG 10...	.56	.84	3.0	.160	.000	0	--	5.5	2.3	36000
SEP 03...	.00	.78	1.7	.060	.020	--	5.7	--	--	23000

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)
NOV 17...	1200	46	2.8	67	4.1	17	7.4	17	7.0	.09
JUN 15...	1530	31	5.6	46	8.3	<12	11	<12	11	.11

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)
OCT 15...	1135	4	4	100	100	0	1	0	0	0
MAR 23...	1430	4	3	100	100	0	0	10	10	0
JUN 15...	1530	4	3	100	100	0	<1	20	--	1
AUG 10...	1430	4	3	100	100	0	1	20	10	1

DATE	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT 15...	0	12	7	200	30	4	0	40	20
MAR 23...	1	3	2	330	30	3	4	20	20
JUN 15...	<3	11	2	2300	<10	18	3	190	4
AUG 10...	1	6	2	1000	10	2	1	240	20

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 15...	.1	.0	6	0	3	3	0	50	20
MAR 23...	.1	.1	2	3	4	4	0	--	30
JUN 15...	.1	.2	5	1	4	0	0	30	10
AUG 10...	.0	.0	3	3	3	3	0	20	10

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 15...	1135	119	37	12	--
NOV 17...	1200	317	282	241	30
DEC 17...	0945	375	208	211	40
JAN 19...	1400	782	313	661	55
FEB 17...	1515	554	270	404	56
APR 20...	1430	265	106	76	--
MAY 18...	1500	658	721	1280	61
JUN 15...	1530	545	237	349	72
JUL 13...	1450	24	14	.91	--
AUG 10...	1430	46	98	12	76
SEP 03...	1430	23	16	.99	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1920	1980	1880	1900	2110	2000	2010	1960	1640	1990	2020	2030
2	1920	1970	2010	1870	2250	2000	2020	1980	1370	1960	2020	2070
3	1940	1990	1860	1880	2150	1900	1990	1940	1360	2040	2030	2060
4	1940	1980	1900	1880	2000	1860	1850	1880	1380	2010	2040	2010
5	1940	1990	1910	1900	2090	1930	1850	1980	1410	2030	2040	2070
6	1980	1990	1830	1880	1970	1940	1920	1990	1370	2020	2020	2080
7	1970	1990	1900	1890	1990	1860	1920	1860	1410	2040	2040	2120
8	2000	1990	1960	1890	2000	1960	1910	2000	1540	2040	2040	2090
9	1980	2010	1790	1880	2030	1940	1920	2020	1660	2050	2020	2050
10	1970	2100	1950	1910	---	1960	1920	2060	1710	2050	2050	2060
11	1970	2060	1930	1880	2260	1940	1950	2040	1940	2060	2000	2030
12	1970	2040	1950	1840	2250	1950	1960	1860	2030	2030	1990	2060
13	1960	2010	1940	1890	2120	1930	1970	1950	2050	2040	2030	2070
14	2010	1990	1950	1850	2020	1940	1980	2040	2060	2020	1950	2040
15	2000	2000	1940	1910	1940	1940	1980	2160	2030	2030	2100	2120
16	1940	1980	1780	1880	1790	1960	2000	2130	2100	2010	2010	2120
17	2010	1990	1950	1950	1870	1980	2000	1970	1800	2020	1840	2040
18	1990	1990	1960	1970	1890	1960	2000	1380	1840	2030	2060	2090
19	1990	1970	1990	1950	1910	1950	1990	2090	1850	1980	2040	2090
20	1980	1950	2000	1930	1930	1980	1820	2060	1880	1980	2060	2040
21	1990	1930	2040	1950	1960	1950	2040	2070	1890	1990	2070	2140
22	1990	1930	1950	1920	1990	1950	2020	2050	1920	2030	2040	2130
23	1990	1840	1920	1880	2020	1980	2000	2060	1930	2020	2020	2110
24	2000	1910	1940	1900	2020	1990	1950	1980	1940	2030	2020	2120
25	2000	1960	1990	1900	2020	1980	1950	1980	1970	2040	2030	2110
26	2000	1930	1910	1930	2030	2010	1940	1940	1980	2020	2030	2140
27	1990	1910	1940	1940	2050	2020	1920	1780	1970	2050	2060	2110
28	1990	1910	1940	1950	2020	2010	1910	1440	1980	1780	2050	2100
29	1990	1920	1920	1950	---	1720	1920	1470	1960	1930	2060	2110
30	1990	1920	1930	1980	---	1970	1930	1230	2000	1940	2050	2130
31	1980	---	1920	1980	---	1970	---	1530	---	1990	2080	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	8.0	4.0	3.0	1.0	5.0	9.5	14.0	18.0	20.0	22.0	17.5
2	12.0	9.0	.0	3.0	.0	5.5	11.0	15.0	19.0	21.0	20.5	19.0
3	9.0	9.0	.0	2.0	.0	5.0	10.0	17.0	20.0	---	21.0	17.0
4	12.5	8.5	3.0	3.0	2.5	5.0	8.0	12.0	20.0	22.0	23.0	17.0
5	13.5	9.0	3.5	5.0	.0	2.0	9.0	12.0	21.0	25.0	21.0	19.0
6	12.0	9.0	.5	3.0	5.0	5.0	11.0	12.0	20.0	24.0	23.0	19.0
7	12.5	7.5	1.5	7.5	.0	3.0	11.0	10.0	22.0	20.0	21.0	15.0
8	23.0	10.0	.5	.5	.0	2.5	10.5	11.5	23.5	19.0	24.0	17.0
9	20.0	10.0	2.0	.0	.0	4.0	11.0	9.5	27.0	16.0	19.0	18.0
10	13.0	7.0	1.0	.5	---	4.0	14.0	8.0	22.0	20.0	19.0	16.5
11	22.5	9.0	3.5	.5	.0	3.0	13.0	11.0	19.0	20.0	18.0	18.0
12	11.0	8.0	2.0	2.0	2.0	5.5	15.0	10.0	22.0	23.0	20.5	18.5
13	18.0	7.0	3.5	2.5	3.0	13.0	12.0	11.0	22.0	21.5	22.0	19.0
14	18.5	4.0	3.0	.0	2.0	13.0	9.5	10.0	20.0	22.0	21.0	19.0
15	12.5	5.0	3.5	.0	2.5	8.0	9.0	11.5	15.0	22.0	21.0	17.0
16	10.5	2.0	9.0	.0	4.5	7.0	12.0	14.0	15.0	23.0	21.0	15.0
17	13.0	6.0	5.0	.0	3.0	7.0	13.5	13.0	16.0	20.5	19.5	25.0
18	17.0	1.0	4.0	.5	5.0	5.0	14.0	11.0	16.0	21.0	19.0	14.0
19	12.0	4.0	.5	1.0	9.0	7.0	13.5	17.0	15.0	30.5	18.5	14.5
20	18.0	2.0	.0	.0	9.5	4.5	10.0	12.0	18.0	27.0	20.0	17.0
21	11.0	1.0	.0	.5	5.0	4.0	13.0	12.0	19.0	23.5	19.5	17.5
22	9.0	2.0	4.0	1.5	2.0	5.0	17.0	15.0	22.0	21.0	21.0	14.5
23	6.5	3.5	5.0	1.5	11.0	6.5	13.5	17.0	20.0	24.0	22.5	18.0
24	2.0	3.0	.0	3.0	6.0	9.0	15.0	15.0	19.0	22.0	20.0	17.0
25	9.0	2.0	.0	5.0	4.0	5.0	17.0	19.0	17.0	21.0	19.0	25.0
26	5.0	2.5	5.0	.0	9.0	10.0	18.0	25.0	18.5	19.0	21.0	14.0
27	4.0	2.0	5.0	4.0	5.0	10.5	21.5	25.0	19.5	21.5	18.0	10.0
28	4.0	4.0	7.0	4.5	6.5	10.0	16.0	19.0	20.0	20.0	18.5	27.0
29	5.5	4.5	4.5	1.0	---	7.0	15.0	19.0	19.0	21.5	19.0	28.0
30	7.0	5.5	4.0	1.0	---	10.0	15.0	18.0	18.0	20.5	19.5	17.0
31	8.0	---	6.0	.0	---	7.0	---	18.0	---	23.0	17.0	---

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE	NOV 17,80		MAY 26,81		JUN 15,81		JUL 13,81		AUG 10,81		SEP 3,81	
TIME	1200		1300		1530		1450		1430		1430	
TOTAL CELLS/ML	21000		43000		130000		14000		36000		23000	
DIVERSITY: DIVISION	0.9		1.0		1.2		1.5		1.5		1.4	
.CLASS	0.9		1.0		1.2		1.5		1.5		1.4	
..ORDER	1.7		1.8		1.3		2.3		2.0		1.7	
...FAMILY	2.0		2.5		1.8		2.5		2.6		2.6	
....GENUS	3.1		2.8		1.9		2.6		2.8		2.7	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...CHARACIACEAE												
....SCHROEDERIA	140	1	--	-	--	-	--	-	330	1	--	-
...MICRACTINIACEAE												
....MICRACTINIUM	--	-	--	-	--	-	--	-	*	0	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	--	-	--	-	2100	2	*	0	*	0	260	1
....CHODATELLA	--	-	--	-	*	0	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	4700	11	--	-	--	-	--	-	*	0
....KIRCHNERIELLA	140	1	--	-	--	-	200	1	--	-	690	3
....OOCYSTIS	--	-	--	-	--	-	--	-	--	-	--	-
....SELENASTRUM	--	-	--	-	*	0	--	-	--	-	--	-
....WESTELLA	--	-	--	-	--	-	--	-	4600	13	--	-
...SCENEDESMACEAE												
....ACTINASTRUM	--	-	--	-	*	0	--	-	--	-	--	-
....SCENEDESMUS	2100	10	3500	8	4100	3	2700#	19	2700	7	2100	9
....TETRASTRUM	550	3	1200	3	1400	1	--	-	--	-	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	140	1	--	-	6200	5	200	1	330	1	340	1
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	2700	13	15000#	35	83000#	63	2100	15	3600	10	950	4
....MELOSIRA	6200#	30	1200	3	--	-	--	-	3500	10	*	0
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	270	1	240	1	--	-	--	-	500	1	--	-
...CYMBELLACEAE												
....AMPHORA	140	1	--	-	--	-	--	-	--	-	--	-
....CYMBELLA	--	-	--	-	--	-	--	-	--	-	*	0
...DIATOMACEAE												
....DIATOMA	--	-	240	1	--	-	--	-	--	-	--	-
...FRAGILARIACEAE												
....FRAGILARIA	820	4	--	-	1000	1	--	-	--	-	--	-
....SYNEDRA	140	1	--	-	--	-	--	-	--	-	--	-
...GOMPHONEMATACEAE												
....GOMPHONEMA	140	1	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE												
....ENTOMONEIS	--	-	580	1	--	-	--	-	--	-	--	-
....NAVICULA	2700	13	5000	13	--	-	600	4	830	2	1800	8
...NITZSCHIACEAE												
....NITZSCHIA	3000	14	7900#	19	3100	2	2000	14	8600#	24	4800#	21
...SURIRELLACEAE												
....CYMATOPLEURA	140	1	--	-	--	-	--	-	--	-	--	-
....SURIRELLA	410	2	590	1	*	0	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....AGMENELLUM	--	-	--	-	--	-	400	3	--	-	--	-
....ANACYSTIS	--	-	--	-	18000	13	910	6	--	-	--	-
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	2300	5	--	-	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	--	-	10000#	28	6900#	30
...OSCILLATORIACEAE												
....LYNGBYA	1100	5	--	-	--	-	--	-	--	-	--	-
....OSCILLATORIA	--	-	--	-	12000	9	4800#	34	*	0	5000#	22

NOTE: # - DOMINANT ORGANISM, EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06823000 NORTH FORK REPUBLICAN RIVER AT COLORADO-NEBRASKA STATE LINE

LOCATION.--Lat 40°04'10", long 102°03'05", in sec.10, T.1 N., R.42 W., Dundy County, NE, Hydrologic Unit 10250002, on right bank 100 ft (30 m) east of Colorado-Nebraska State line and 9.5 mi (15.3 km) upstream from confluence with Arikaree River.

DRAINAGE AREA.--1,360 mi² (3,520 km²), approximately, of which about 100 mi² (260 km²) contribute directly to surface runoff.

PERIOD OF RECORD.--October 1930 to current year. Prior to October 1932, published as North Fork of Arikaree River at Colorado-Nebraska State line. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1240: 1947(M). WSP 1390: 1934. WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Steel-piling control since January 1965. Datum of gage is 3,336.09 ft (1,016.840 m)National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1934, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected by diversion in Pioneer Canal for irrigation of about 2,700 acres (10.9 km²) in Colorado and Nebraska.

AVERAGE DISCHARGE.--51 years, 47.4 ft³/s (1.342 m³/s), 34,340 acre-ft/yr (42.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,110 ft³/s (59.8 m³/s) Apr. 28, 1947, gage height, 5.92 ft (1.804 m), from rating curve extended above 800 ft³/s (22.7 m³/s), on basis of slope-area measurement of peak flow; no flow Aug. 25, 26, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 110 ft³/s (3.12 m³/s) Mar. 29, gage height, 1.66 ft (0.506 m); maximum gage height, 2.68 ft (0.817 m) Feb. 10 (backwater from ice), no peak above base of 130 ft³/s (3.7 m³/s); minimum daily discharge, 2.5 ft³/s (0.071 m³/s) July 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	48	53	51	52	58	62	24	33	5.6	34	22
2	15	48	50	51	48	60	62	23	31	6.6	35	20
3	17	50	51	50	48	60	61	37	28	18	27	21
4	15	50	53	51	50	80	66	36	31	10	26	25
5	14	51	53	52	54	77	62	24	32	6.0	17	26
6	23	51	53	52	56	68	61	24	32	15	29	23
7	43	46	54	51	57	69	59	45	32	15	33	23
8	17	46	52	51	55	66	58	46	29	15	33	23
9	15	47	52	50	56	65	59	43	16	10	30	24
10	14	49	51	50	50	66	58	43	13	5.7	25	24
11	12	50	52	50	46	66	60	43	19	3.5	32	23
12	12	52	53	50	48	66	57	40	13	3.9	31	23
13	12	54	52	50	52	67	58	52	11	3.8	36	24
14	12	55	52	52	56	69	60	53	10	4.7	36	24
15	10	55	52	53	57	75	58	47	9.2	3.0	35	25
16	11	56	52	53	57	70	21	43	8.2	2.5	45	27
17	11	55	53	49	57	66	17	52	7.2	2.8	53	27
18	9.2	55	52	50	56	62	20	73	6.9	3.0	44	29
19	11	55	51	54	57	62	42	68	7.2	3.4	36	36
20	16	54	50	54	57	62	97	58	6.5	3.9	43	27
21	17	54	51	52	56	64	93	53	6.6	3.7	38	24
22	15	55	51	52	56	66	72	49	6.0	4.8	36	23
23	22	55	53	53	55	65	55	47	5.9	4.5	38	23
24	45	54	51	55	57	62	47	46	5.7	4.3	30	24
25	48	54	50	54	57	62	45	47	6.1	8.3	33	24
26	49	54	52	54	57	62	44	47	6.2	13	33	24
27	49	53	52	55	57	59	44	48	5.5	33	26	24
28	49	53	51	54	56	61	35	49	7.0	24	25	30
29	49	53	51	57	---	98	36	48	8.2	21	24	37
30	49	53	51	56	---	83	33	47	6.9	24	22	37
31	50	---	51	57	---	69	---	40	---	24	22	---
TOTAL	741.2	1565	1605	1623	1520	2085	1602	1395	439.3	306.0	1007	766
MEAN	23.9	52.2	51.8	52.4	54.3	67.3	53.4	45.0	14.6	9.87	32.5	25.5
MAX	50	56	54	57	57	98	97	73	33	33	53	37
MIN	9.2	46	50	49	46	58	17	23	5.5	2.5	17	20
AC-FT	1470	3100	3180	3220	3010	4140	3180	2770	871	607	2000	1520

CAL YR 1980 TOTAL 15063.9 MEAN 41.2 MAX 170 MIN 3.0 AC-FT 29880
WTR YR 1981 TOTAL 14654.5 MEAN 40.1 MAX 98 MIN 2.5 AC-FT 29070

06826000 BONNY RESERVOIR NEAR HALE, CO

LOCATION.--Lat 39°37'24", long 102°10'26", in SE¼SE¼ sec.9, T.5 S., R.43 W., Yuma County, Hydrologic Unit 10250003, in stair well to outlet conduit of Bonny Dam on South Fork Republican River, 1.7 mi (2.7 km) west of Hale, and 3.0 mi (4.8 km) downstream from Landsman Creek.

DRAINAGE AREA.--1,820 mi² (4,710 km²), approximately.

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1710: 1955.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to Oct. 1, 1967, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by an earthfill dam. Storage began July 6, 1950; dam completed May 4, 1951. Capacity of reservoir, 170,200 acre-ft (210 hm³) below elevation 3,710 ft (1,130.8 m), crest of spillway, of which 128,800 acre-ft (159 hm³) is for flood control and 39,900 acre-ft (49.2 hm³) is for irrigation. Dead storage, 1,420 acre-ft (1.75 hm³) below elevation 3,635.0 ft (1,107.95 m), sill of trashrack at outlet conduit. Figures given represent total contents.

COOPERATION.--Records furnished by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 55,030 acre-ft (67.9 hm³) May 17, 1957, elevation, 3,678.10 ft (1,121.085 m); minimum observed since appreciable contents was attained, 22,520 acre-ft (27.83 hm³) Oct. 6-14, 1952, elevation, 3,661.20 ft (1,115.934 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 41,830 acre-ft (51.6 hm³) Apr. 28, elevation, 3,672.24 ft (1,119.298 m); minimum, 35,040 acre-ft (43.2 hm³) Sept. 30, elevation, 3,668.75 ft (1,118.235 m).

Capacity table (elevation, in feet, and total contents, in acre-feet)
(Furnished by U.S. Bureau of Reclamation

3,665.0	28,460
3,672.0	41,340

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37580	37120	37730	38740	39470	39920	41500	41790	41010	39900	37900	36440
2	37580	37160	37750	38780	39490	39920	41500	41750	40970	39900	37870	36380
3	37480	37160	37790	38820	39490	40200	41500	41770	40990	39820	37830	36310
4	37480	37200	37810	38840	39490	40670	41500	41750	41010	39780	37810	36270
5	37440	37220	37850	38860	39510	40500	41480	41645	41050	39720	37730	36210
6	37390	37240	37880	38890	39510	40600	41500	41540	41090	39620	37760	36140
7	37390	37260	37920	38890	39510	40850	41480	41440	41110	39490	37560	36100
8	37390	37280	37960	38930	39530	40930	41500	41400	41110	39230	37480	36040
9	37390	37300	38000	38950	39530	40970	41500	41300	41110	39150	37430	36000
10	37300	37300	38040	38970	39530	41030	41480	41170	41110	39090	37410	35980
11	37270	37310	38060	38990	39530	41090	41500	41050	41090	39010	37390	35910
12	37240	37330	38080	39010	39530	41130	41480	40990	41130	38910	37330	35870
13	37220	37330	38110	39031	39530	41240	41420	41010	41110	38820	37330	35840
14	37200	37350	38150	39050	39590	41280	41400	40970	40990	38720	37310	35800
15	37080	37390	38210	39090	39630	41320	41380	40950	40950	38680	37240	35774
16	37120	37410	38270	39130	39680	41380	41380	41070	40910	38540	37220	35690
17	37100	37430	38310	39170	39720	41340	41380	41190	40890	38460	37200	35650
18	37080	37450	38310	39210	39720	41340	41380	41280	40810	38460	37160	35620
19	37060	37470	38310	39230	39820	41300	41520	41280	40790	38440	37140	35580
20	37060	37500	38330	39270	39820	41300	41600	41240	40770	38410	37100	35500
21	37040	37520	38370	39290	39840	41360	41790	41210	40690	38350	37060	35390
22	37000	37540	38430	39310	39880	41340	41810	41190	40650	38190	36960	35360
23	36950	37540	38440	39330	39920	41300	41810	41130	40580	38190	36930	35340
24	36960	37560	38460	39350	39920	41300	41810	41130	40460	38080	36910	35300
25	36950	37600	38500	39370	39920	41280	41810	41090	40400	38080	36880	35260
26	36950	37620	38540	39390	39920	41260	41810	41050	40360	38130	36780	35210
27	36950	37640	38580	39410	39920	41300	41790	41070	40320	38110	36710	35170
28	37000	37680	38430	39430	39920	41440	41830	41090	40180	38080	36690	35130
29	37020	37680	38660	39450	---	41500	41810	41070	40020	38060	36670	35090
30	37060	37710	38680	39470	---	41500	41810	41050	39960	38020	36630	35040
31	37100	---	38700	39470	---	41500	---	41030	---	37980	36480	---
MAX	37580	37710	38700	39470	39920	41500	41830	41790	41130	39900	37900	36440
MIN	36950	37120	37730	38740	39470	39920	41380	40950	39960	37980	36480	35040

WTR YR 1981 MAX 41830 MIN 35040

06826500 SOUTH FORK REPUBLICAN RIVER NEAR HALE, CO

LOCATION.--Lat 39°37'26", long 102°09'47", in SW¼NE¼ sec.15, T.5 S., R.43 W., Yuma County, Hydrologic Unit 10250003, on right bank 0.5 mi (0.8 km) downstream from Bonny Dam and 1.2 mi (1.9 km) west of Hale.

DRAINAGE AREA.--1,825 mi^2 (4,730 km^2), approximately.

PERIOD OF RECORD.--October 1946 to September 1948, May 1951 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 3,610 ft (1,100 m), from topographic map. Oct. 1, 1946, to Sept. 30, 1948, at site 4 mi (6 km) downstream at different datum.

REMARKS.--Records good. Flow regulated by Bonny Reservoir since July 6, 1950 (station 06826000). Many diversions above station for irrigation. Water diverted by Hale ditch from Bonny Reservoir bypasses station (1,740 acre-ft or 2.15 hm^3 diverted during current year). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Hale ditch diversion records furnished by State Engineer of Colorado.

AVERAGE DISCHARGE.--30 years (water years 1952-81), 20.8 ft^3/s (0.589 m^3/s), 15,070 acre-ft/yr (18.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,790 ft^3/s (107 m^3/s) May 28, 1947, gage height, 4.71 ft (1.436 m), site and datum then in use; maximum gage height, 4.84 ft (1.475 m) Apr. 28, 1947, site and datum then in use; no flow Aug. 11-13, 1947.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood known occurred May 31, 1935, stage and discharge not determined. A discharge of 103,000 ft^3/s (2,920 m^3/s) was determined at a site near Newton 5.5 mi (8.8 km) upstream, with a drainage area of approximately 1,270 mi^2 (3,290 km^2).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 89 ft^3/s (2.52 m^3/s) at 1700 May 8, gage height, 4.91 ft (1.497 m); minimum daily, 4.1 ft^3/s (0.12 m^3/s) June 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	5.2	5.6	6.1	14	16	25	25	26	8.5	6.0	5.2
2	5.2	5.2	5.2	6.0	13	15	25	25	26	9.9	6.2	5.4
3	5.3	5.2	5.5	5.8	11	16	26	23	20	9.0	5.9	6.2
4	5.3	4.8	5.4	5.8	10	13	26	52	15	8.9	5.7	6.3
5	5.2	5.2	5.2	5.9	12	7.0	26	84	11	8.6	5.5	6.3
6	5.3	4.7	4.8	6.2	11	6.7	26	85	8.8	8.5	5.8	6.4
7	5.3	4.7	4.8	6.0	11	7.8	26	84	9.7	8.3	5.7	6.0
8	5.3	4.7	5.3	5.8	15	6.9	27	85	9.0	7.6	6.1	5.8
9	5.2	4.7	5.6	5.9	14	7.0	27	85	8.9	7.1	6.7	5.2
10	5.3	5.2	5.6	5.8	12	7.2	26	84	6.7	6.3	6.8	5.4
11	5.5	5.3	5.8	6.6	12	7.4	26	85	5.0	5.8	6.2	5.1
12	5.7	5.3	5.7	6.6	11	8.4	27	84	5.0	5.5	6.7	5.1
13	5.7	5.1	5.3	7.0	11	7.9	27	86	5.0	5.3	6.1	5.0
14	5.7	5.1	5.6	7.0	11	7.2	27	56	5.5	5.3	5.5	5.3
15	5.7	5.3	5.9	6.6	11	6.7	28	37	5.3	4.7	5.8	5.7
16	5.4	5.2	5.6	6.5	12	6.1	28	38	4.1	5.7	7.0	5.2
17	5.3	5.1	5.8	5.4	11	18	28	39	5.1	5.5	7.9	5.2
18	5.1	5.8	5.7	4.9	11	36	29	39	5.3	7.4	5.0	5.1
19	4.8	5.3	5.9	5.3	12	36	31	37	5.7	6.1	4.9	5.1
20	4.7	5.7	5.7	8.0	12	36	30	37	5.5	6.4	4.8	5.0
21	4.7	5.7	5.7	15	12	37	30	37	5.5	6.2	4.7	4.8
22	4.8	5.9	6.0	16	12	37	30	36	5.8	6.6	5.0	4.8
23	4.8	5.8	5.8	16	13	37	29	37	6.6	6.2	4.5	5.0
24	4.8	5.8	5.3	16	16	37	28	36	7.2	6.4	4.6	5.3
25	4.8	5.7	6.4	17	16	37	24	36	7.1	7.8	4.5	5.2
26	5.0	6.1	6.6	17	16	30	25	37	7.5	8.7	4.6	4.9
27	5.7	5.9	6.6	17	15	25	25	31	7.8	7.1	5.1	4.9
28	5.1	5.9	6.4	17	15	26	26	26	8.2	6.7	5.3	5.0
29	4.7	5.8	6.3	16	---	26	26	26	7.6	6.5	5.4	5.0
30	4.7	5.8	6.4	14	---	26	25	25	8.0	6.0	5.1	4.4
31	4.3	---	6.1	14	---	25	---	26	---	6.0	5.2	---
TOTAL	159.8	161.2	177.6	298.2	352	615.3	809	1523	263.9	214.6	174.3	159.3
MEAN	5.15	5.37	5.73	9.62	12.6	19.8	27.0	49.1	8.80	6.92	5.62	5.31
MAX	5.7	6.1	6.6	17	16	37	31	86	26	9.9	7.9	6.4
MIN	4.3	4.7	4.8	4.9	10	6.1	24	23	4.1	4.7	4.5	4.4
AC-FT	317	320	352	591	698	1220	1600	3020	523	426	346	316

CAL YR 1980 TOTAL 3976.6 MEAN 10.9 MAX 36 MIN 4.3 AC-FT 7890
WTR YR 1981 TOTAL 4908.2 MEAN 13.4 MAX 86 MIN 4.1 AC-FT 9740

ARKANSAS RIVER BASIN

07081200 ARKANSAS RIVER NEAR LEADVILLE, CO

LOCATION.--Lat 39°15'26", long 106°20'35", in NW¼NW¼ sec.21, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, 500 ft (150 m) downstream from confluence of East Fork Arkansas River and Tennessee Creek, 0.5 mi (0.8 km) downstream from highway bridge, and 2.8 mi (4.5 km) west of Leadville.

DRAINAGE AREA.--97.2 mi^2 (251.7 km^2).

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,730 ft (2,966 m), from topographic map.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Transmountain diversion from Colorado River basin to Arkansas River basin enters above this station (see elsewhere in this report). Small diversions upstream for irrigation and municipal use. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--14 years, 69.9 ft^3/s (1.980 m^3/s), 50,640 acre-ft/yr (62.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,030 ft^3/s (29.2 m^3/s) June 11, 12, 1980, gage height, 4.21 ft (1.283 m); minimum daily, 7.0 ft^3/s (0.20 m^3/s) Feb. 3-20, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 300 ft^3/s (8.50 m^3/s) at 0400 June 7 and at 0400 June 8, gage height, 3.30 ft (1.006 m); minimum daily, 12 ft^3/s (0.34 m^3/s) many days during winter.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	22	14	15	12	12	14	55	147	64	45	45
2	22	22	14	15	12	12	15	60	159	72	42	38
3	24	21	14	15	12	12	16	70	170	64	39	40
4	23	21	14	15	12	12	16	70	156	55	38	40
5	22	21	14	15	12	12	17	60	166	52	41	37
6	22	21	14	15	12	12	17	50	198	49	38	40
7	21	21	14	15	12	12	18	45	228	44	37	45
8	20	20	14	15	12	12	18	39	226	49	36	40
9	20	20	14	15	12	12	19	34	218	49	35	35
10	20	20	14	15	12	12	20	32	212	50	38	30
11	20	19	14	15	12	12	20	33	184	44	42	35
12	20	19	14	15	12	12	20	29	161	47	41	40
13	22	18	14	15	12	13	20	29	138	71	50	38
14	23	18	14	15	12	13	20	29	118	64	44	35
15	25	17	14	15	12	13	20	34	97	58	43	30
16	24	17	15	15	12	13	21	34	89	68	50	29
17	23	16	15	15	12	13	22	37	81	72	46	28
18	23	16	15	15	12	13	23	37	79	77	37	28
19	25	15	15	15	12	13	25	36	72	63	35	29
20	26	15	15	15	12	13	25	39	74	54	35	30
21	26	15	15	14	12	13	25	40	77	46	40	30
22	25	15	15	14	12	13	25	36	79	48	45	29
23	26	15	15	14	12	13	25	36	73	45	50	28
24	25	15	15	14	12	13	28	37	69	42	40	27
25	23	15	15	14	12	13	32	46	65	45	45	24
26	22	15	15	14	12	14	38	61	67	64	55	27
27	22	15	15	13	12	14	42	73	70	69	60	28
28	24	14	15	13	12	14	42	105	81	59	50	28
29	24	14	15	12	---	14	45	142	80	50	45	27
30	23	14	15	12	---	14	50	132	63	46	50	28
31	22	---	15	12	---	14	---	154	---	43	50	---
TOTAL	708	526	450	446	336	397	738	1714	3697	1723	1342	988
MEAN	22.8	17.5	14.5	14.4	12.0	12.8	24.6	55.3	123	55.6	43.3	32.9
MAX	26	22	15	15	12	14	50	154	228	77	60	45
MIN	20	14	14	12	12	12	14	29	63	42	35	24
AC-FT	1400	1040	893	885	666	787	1460	3400	7330	3420	2660	1960

CAL YR 1980 TOTAL 34669 MEAN 94.7 MAX 960 MIN 12 AC-FT 68770
WTR YR 1981 TOTAL 13065 MEAN 35.8 MAX 228 MIN 12 AC-FT 25910

NOTE.--NO GAGE-HEIGHT RECORD NOV. 15 TO MAY 6, AUG. 19 TO SEPT. 24.

07082400 TURQUOISE LAKE NEAR LEADVILLE, CO

LOCATION.--Lat 39°15'10", long 106°22'26", in SW¼NE¼ sec.19, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, in control house of Sugar Loaf Dam on Lake Fork, 4.0 mi (6.4 km) west of Leadville and 4.6 mi (7.4 km) upstream from mouth.

DRAINAGE AREA.--28.1 mi^2 (72.8 km^2).

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Nonrecording gage read once daily. Datum of gage is 9,754.00 ft (2,973.019 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir formed by earthfill dam completed in 1909, capacity, 17,400 acre-ft (21.5 hm^3). Enlargement of dam began Dec. 8, 1965, and closure was made Apr. 15, 1968. Enlarged capacity, 129,400 acre-ft (160 hm^3) at elevation 9,869.4 ft (3,008.19 m), crest of spillway. Dead storage, 2,770 acre-ft (3.42 hm^3) below elevation 9,765.90 ft (2,976.646 m), sill of lowest outlet. Figures given are total contents. Since Apr. 15, 1968, Turquoise Lake has been a regulatory reservoir for the Fryingpan-Arkansas project and stores water imported from the Colorado River basin through Charles H. Boustead Tunnel for irrigation, municipal water supply, and power devalopment. It also stores water for industrial use, and water imported from the Colorado River basin through Busk-Ivanhce tunnel for irrigation and through Homestake tunnel for municipal water supply.

COOPERATION.--Records furnished by U.S. Bureau of Reclamation.

EXTREMES (at 0800 of following day) FOR PERIOD OF RECORD.--Maximum contents, 127,200 acre-ft (157 hm^3) July 10, 1980, elevation, 9,868.13 ft (3,007.806 m); minimum since appreciable storage was attained, 14,510 acre-ft (17.9 hm^3) Oct. 1, 1968, elevation, 9,782.85 ft (2,981.813 m).

EXTREMES (at 0800 of the following day) FOR CURRENT YEAR.--Maximum contents, 95,660 acre-ft (118 hm^3) July 19, elevation, 9,849.71 ft (3,002.192 m); minimum, 60,450 acre-ft/yr (74.5 hm^3/s) Jan. 23, elevation, 9,826.56 ft (2,995.135 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	9,846.34	90,170	-
Oct. 31	9,840.44	80,820	-9,350
Nov. 30	9,835.02	72,560	-8,260
Dec. 31	9,828.18	62,690	-9,870
CAL YR 1980		-	-28,600
Jan. 31	9,827.37	61,570	-1,120
Feb. 28	9,830.05	65,320	+3,750
Mar. 31	9,834.50	71,780	+6,460
Apr. 30	9,833.27	69,970	-1,810
May 31	9,838.65	78,060	+8,090
June 30	9,849.02	94,530	+16,470
July 31	9,849.29	94,970	+440
Aug. 31	9,848.61	93,860	-1,110
Sept. 30	9,846.23	90,000	-3,860
WTR YR 1981			-170

07083000 HALFMOON CREEK NEAR MALTA, CO

(Hydrologic bench-mark station)

LOCATION.--Lat 39°10'20", long 106°23'19", in SE¼SE¼ sec.13, T.10 S., R.81 W., Lake County, Hydrologic Unit 11020001, on right bank 1.4 mi (2.3 km) upstream from culvert, 3.3 mi (5.3 km) upstream from mouth, and 4.3 mi (6.9 km) southwest of Malta.

DRAINAGE AREA.--23.6 mi² (61.1 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1946 to current year.

REVISED RECORDS.--WSP 2121: Drainage area at site 1.4 mi (2.3 km) downstream. WRD Colo. 1968: 1967(M). WDR CO-79-1: 1976(M). WDR CO-80-1: 1954(M).

GAGE.--Water-stage recorder ana concrete control. Altitude of gage is 9,830 ft (2,996 m), from topographic map. Prior to Oct. 19, 1966, at sites 1.4 mi (2.3 km) downstream at different datums.

REMARKS.--Records good except those for period of no gage-height record, which are poor. No regulation or diversion above station.

AVERAGE DISCHARGE.--35 years, 28.2 ft³/s (0.799 m³/s) 20,430 acre-ft/yr (25.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 450 ft³/s (12.7 m³/s) June 30, 1957, gage height, 3.48 ft (1.061 m), site and datum then in use; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft³/s (4.2 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 6	2000	191	5.41	3.13	0.954	June 9	2000	*203	5.75	3.17	0.966

Minimum daily discharge, 2.8 ft³/s (0.079 m³/s) Feb. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	9.5	6.0	5.0	3.8	3.9	3.7	38	79	54	32	18
2	9.5	8.2	6.0	4.8	3.8	3.9	3.7	42	89	62	30	16
3	9.5	8.2	7.0	4.7	3.9	3.8	3.5	45	86	52	29	18
4	9.2	8.2	7.2	4.7	4.1	3.8	3.5	33	89	48	27	16
5	9.2	8.9	6.8	4.5	4.2	3.8	3.5	28	112	42	24	17
6	9.2	8.4	7.1	4.4	4.1	3.8	3.5	24	134	38	22	16
7	9.2	7.9	6.7	4.4	3.8	3.8	3.7	21	127	40	22	19
8	9.2	8.2	6.0	4.4	3.4	3.8	3.9	18	136	48	22	20
9	9.2	7.4	7.2	4.4	3.2	3.8	4.4	16	177	44	20	21
10	8.8	7.1	9.9	4.4	3.0	3.7	5.6	16	138	47	24	22
11	8.8	7.2	9.3	4.3	2.9	3.7	6.0	15	127	40	24	27
12	8.4	7.8	8.5	4.3	2.8	3.7	5.5	13	113	38	25	26
13	8.8	8.2	8.5	4.3	2.8	3.7	6.0	13	93	38	27	26
14	9.2	7.5	7.5	4.2	2.9	3.7	6.0	12	73	37	25	24
15	10	6.1	6.4	4.1	3.1	3.7	6.1	14	58	37	27	24
16	9.2	7.5	7.8	4.1	3.2	3.7	6.2	13	51	38	36	22
17	9.6	7.2	8.8	4.1	3.3	3.6	6.8	13	52	57	32	21
18	9.9	6.9	9.2	4.1	3.3	3.6	7.9	13	53	55	27	20
19	10	6.1	8.2	4.2	3.3	3.6	8.3	16	55	47	25	19
20	10	5.5	7.8	4.2	3.3	3.6	7.8	18	64	42	26	18
21	11	5.5	7.5	4.1	3.4	3.6	7.5	17	69	38	24	19
22	9.2	5.5	7.2	4.0	3.5	3.6	8.2	16	67	37	27	17
23	8.2	5.0	6.7	4.0	3.7	3.6	7.2	16	62	32	24	16
24	8.5	5.0	8.5	4.1	3.8	3.6	9.2	20	61	31	23	16
25	9.9	5.0	8.2	4.2	3.9	3.6	12	26	58	34	22	16
26	9.5	5.0	7.8	4.2	3.9	3.6	18	33	56	48	22	16
27	9.5	5.0	6.9	4.2	3.9	3.6	21	47	62	52	22	15
28	11	5.0	6.4	4.2	3.9	3.6	22	61	68	40	21	14
29	9.9	5.5	6.1	4.0	---	3.7	26	74	59	35	19	13
30	8.8	6.0	5.6	3.9	---	3.7	32	76	54	34	22	13
31	9.2	---	5.2	3.8	---	3.7	---	82	---	32	20	---
TOTAL	291.3	204.5	228.0	132.3	98.2	114.6	268.7	889	2522	1317	772	565
MEAN	9.40	6.82	7.35	4.27	3.51	3.70	8.96	28.7	84.1	42.5	24.9	18.8
MAX	11	9.5	9.9	5.0	4.2	3.9	32	82	177	62	36	27
MIN	8.2	5.0	5.2	3.8	2.8	3.6	3.5	12	51	31	19	13
AC-FT	578	406	452	262	195	227	533	1760	5000	2610	1530	1120

CAL YR 1980 TOTAL 12391.8 MEAN 33.9 MAX 320 MIN 2.0 AC-FT 24580
WTR YR 1981 TOTAL 7402.6 MEAN 20.3 MAX 177 MIN 2.8 AC-FT 14680

NOTE.--NO GAGE-HEIGHT RECORD DEC. 30 TO APR. 1.

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued
(Hydrologic bench-mark station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1966 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: May 1967 to current year.

INSTRUMENTATION.--Water temperature recorder since May 23, 1967.

REMARKS.--Temperature recorder stopped May 7-June 24.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 26.0°C Aug. 16, 1980; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 18.0°C Aug. 6, 7; minimum, 0.0°C on many days during October to April.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT									
22...	1000	9.5	--	97	--	.0	12.5	<1	<1
DEC									
04...	1415	7.4	--	94	7.1	.0	10.9	<1	<1
FEB									
06...	1015	4.5	--	103	7.0	.0	10.7	K4	K14
19...	1315	3.5	--	92	7.0	.0	15.4	K16	<1
JUN									
24...	1400	55	--	55	7.3	13.0	7.9	K3	--
JUL									
24...	1200	32	75	71	7.0	10.0	--	K1	--
AUG									
18...	1700	27	86	82	7.4	15.0	6.1	<1	<1
SEP									
25...	1530	16	--	94	7.3	11.5	8.8	0	K3

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT									
22...	40	10	3.7	1.5	.1	.6	39	6.5	.2
DEC									
04...	40	9.5	3.9	1.6	.1	.6	40	5.0	.1
FEB									
06...	46	11	4.4	1.9	.1	.7	43	7.4	.5
19...	45	11	4.2	2.0	.1	.7	39	7.0	.1
JUN									
24...	25	6.5	2.1	1.1	.1	.5	29	.9	.0
JUL									
24...	35	9.1	3.0	1.2	.1	.5	26	<5.0	.5
AUG									
18...	37	9.4	3.2	1.3	.1	.6	38	<5.0	<.1
SEP									
25...	40	10	3.7	1.3	.1	3.6	39	<5.0	.4

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT									
22...	.1	6.4	53	53	.07	1.3	.31	.09	--
DEC									
04...	.2	6.6	57	52	.08	1.1	.13	.13	.010
FEB									
06...	.1	7.6	59	68	.08	.72	.14	.21	.030
19...	.1	7.2	51	56	.07	.48	.11	.11	.000
JUN									
24...	.1	3.6	31	33	.04	4.6	.10	.12	.010
JUL									
24...	.1	4.6	46	40	.06	3.9	.13	.14	.030
AUG									
18...	.1	4.8	47	47	.06	3.4	.15	.08	.010
SEP									
25...	.1	5.1	52	44	.07	2.2	.14	.17	.010

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
FEB 06...	1015	0	0	0	30	<1	0	<1	0	0	<3
JUN 24...	1400	1	1	0	100	<1	0	1	10	0	<3

DATE	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)
FEB 06...	3	<10	110	44	7	23	<4	0	4	.1	.0
JUN 24...	4	<10	130	97	7	18	6	10	5	.0	.0

DATE	MOLYBDENUM, DISSOLVED (UG/L AS MO)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
FEB 06...	<10	0	0	0	0	92	<6.0	10	12	.00
JUN 24...	<10	0	0	0	0	44	<6.0	10	27	.00

DATE	TIME	GROSS ALPHA, DISSOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)
FEB 06...	1015	1.2	.3	1.7	<.4	1.3	<.4	1.3	<.4	.06

DATE	URANIUM DISSOLVED, EXTRACTION (UG/L)	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
FEB 06...	.21	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
FEB 06...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
FEB 06...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT 22...	1010	9.5	11	.28
DEC 04...	1500	7.4	0	.00
FEB 06...	1100	4.5	9	.11
19...	1430	3.5	13	.12
JUN 24...	1553	55	[illegible]	[illegible]
JUL 24...	1045	32	[illegible]	[illegible]
AUG 18...	[illegible]	27	2	.15

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.5	3.5	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	11.0	3.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3	11.0	2.0	4.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
4	11.0	2.0	5.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5	10.0	2.5	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	11.0	2.5	6.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	11.5	2.5	5.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8	11.0	3.0	5.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	10.5	2.0	3.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	10.0	2.0	3.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
11	10.0	1.5	5.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	7.5	1.5	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	10.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	7.0	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	5.5	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	3.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	5.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	5.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	5.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0
24	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0
25	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	.0
26	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.5	.0
27	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.5	.5
28	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0
29	1.0	.0	.0	.0	.0	.0	.0	.0	---	---	1.0	.0
30	1.0	.0	.0	.0	.0	.0	.0	.0	---	---	1.0	.0
31	2.0	.0	---	---	.0	.0	.0	.0	---	---	1.0	.0
MONTH	12.5	.0	6.0	.0	.0	.0	.0	.0	.0	.0	1.5	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1.0	.0	13.0	1.5	---	---	11.0	7.0	13.5	8.0	14.0	6.0
2	2.0	.0	11.0	1.0	---	---	13.0	7.0	15.0	7.0	14.5	5.5
3	1.0	.5	9.0	1.5	---	---	16.0	6.5	14.0	8.0	13.5	7.0
4	.5	.0	11.5	.5	---	---	15.5	6.5	17.5	8.0	13.0	8.0
5	.5	.0	7.0	2.5	---	---	16.5	7.0	17.0	7.5	12.0	7.5
6	2.0	.0	9.0	1.5	---	---	16.0	7.0	18.0	8.5	10.5	7.0
7	1.5	.5	---	---	---	---	15.0	8.0	18.0	8.5	12.5	7.5
8	2.5	.5	---	---	---	---	13.0	7.5	15.5	8.5	12.0	8.0
9	2.0	.5	---	---	---	---	11.5	6.5	14.5	8.0	11.0	7.0
10	3.0	.5	---	---	---	---	17.0	7.0	10.0	8.0	11.5	6.0
11	4.0	.0	---	---	---	---	13.5	7.5	10.0	6.5	8.0	6.0
12	3.0	.0	---	---	---	---	15.5	8.0	12.0	8.0	10.5	5.0
13	4.0	1.0	---	---	---	---	12.5	8.0	12.0	7.0	9.0	5.0
14	5.0	.5	---	---	---	---	15.0	8.0	11.5	6.5	10.5	4.0
15	5.0	1.5	---	---	---	---	13.0	7.0	12.5	7.5	11.5	4.0
16	5.5	1.0	---	---	---	---	10.0	8.0	12.0	6.5	11.0	4.5
17	8.0	.0	---	---	---	---	10.0	7.0	13.5	6.0	13.0	5.0
18	8.0	1.0	---	---	---	---	13.0	6.0	15.5	6.5	12.5	4.0
19	8.0	1.5	---	---	---	---	16.0	7.0	14.0	6.5	11.5	3.5
20	6.0	.0	---	---	---	---	16.0	6.0	13.0	7.0	11.5	4.0
21	10.0	.0	---	---	---	---	17.0	6.5	14.0	7.0	12.5	6.0
22	9.0	1.0	---	---	---	---	15.0	7.0	13.0	7.5	10.0	4.5
23	11.0	.5	---	---	---	---	12.5	7.0	15.0	6.0	10.0	4.5
24	11.0	1.5	---	---	14.5	---	14.0	7.0	12.5	6.5	10.5	5.0
25	13.0	2.0	---	---	13.0	5.5	13.0	8.0	13.0	6.5	12.0	4.0
26	12.0	1.5	---	---	13.0	6.5	13.0	7.5	10.0	6.5	11.5	4.5
27	11.0	1.0	---	---	11.0	6.5	13.0	5.5	12.5	5.5	12.0	3.0
28	12.5	1.0	---	---	11.5	6.0	15.5	6.0	14.5	6.0	11.0	4.0
29	11.5	.5	---	---	11.5	6.0	13.0	6.5	13.0	6.5	10.0	4.5
30	14.5	1.0	---	---	14.5	5.0	15.0	6.5	15.0	7.0	10.5	3.5
31	---	---	---	---	---	---	13.5	7.5	12.5	7.5	---	---
MONTH	14.5	.0	13.0	.5	14.5	5.0	17.0	5.5	18.0	5.5	14.5	3.0

07083700 ARKANSAS RIVER NEAR MALTA, CO

LOCATION.--Lat 39°10'08", long 106°19'23", in NE¼NW¼ sec.22, T.10 S., R.80 W., Lake County, Hydrologic Unit 11020001, on left bank 40 ft (12 m) downstream and 30 ft (9 m) shoreward of left end of bridge on U.S. Highway 24, 3.5 mi (5.6 km) downstream from Lake Fork, 4.4 mi (7.1 km) southeast of Malta, and 5.7 mi (9.2 km) south of Leadville.

DRAINAGE AREA.--228 mi^2 (590 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to September 1967, October 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,300 ft (2,835 m), from topographic map.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Flow regulated by Turquoise Lake (station 07082400) on Lake Fork 8 mi (13 km) upstream. Transmountain diversions from Colorado River basin to Arkansas River basin enter upstream from this station (see elsewhere in this report). Diversions for irrigation of about 5,600 acres (22.7 km^2) above station.

AVERAGE DISCHARGE.--7 years (water years 1975-81), 247 ft^3/s (6.995 m^3/s), 179,000 acre-ft/yr (221 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 2,200 ft^3/s (62.3 m^3/s) May 12, 1980, gage height, 5.37 ft (1.637 m) from rating curve extended above 1900 ft^3/s (53.8 m^3/s); minimum daily, 40 ft^3/s (1.13 m^3/s) Oct. 11, 12, 16-20, 1974, Dec. 7-12, Dec. 25, 1976, to Jan. 15, 1977, Jan. 25 to Feb. 7, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 800 ft^3/s (22.7 m^3/s) June 9, gage height, unknown; minimum daily, 65 ft^3/s (1.84 m^3/s) Apr. 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	213	120	180	180	98	100	105	180	430	170	157	89
2	213	145	180	180	98	100	150	210	440	190	157	86
3	213	175	185	180	98	100	160	250	440	170	157	88
4	213	190	196	180	98	100	160	250	430	165	154	89
5	213	190	195	180	98	100	150	190	500	155	147	88
6	213	190	195	180	98	105	150	140	600	150	142	89
7	210	190	195	180	98	105	150	128	680	150	135	102
8	210	190	195	150	98	105	150	121	720	150	129	102
9	210	190	195	130	98	105	155	111	770	150	127	100
10	210	175	195	130	96	105	155	103	680	150	125	100
11	205	140	195	130	96	105	155	95	600	140	130	131
12	205	140	195	130	94	105	155	88	530	130	140	142
13	205	140	180	130	93	105	155	84	460	130	130	140
14	205	170	180	120	93	105	155	82	380	130	130	124
15	215	180	180	110	93	105	80	90	280	130	140	123
16	220	185	180	103	93	130	65	90	230	140	130	119
17	225	185	180	110	93	130	65	94	210	140	120	112
18	225	185	185	115	93	130	70	94	180	140	116	125
19	225	180	180	115	92	130	70	94	170	150	111	163
20	225	180	180	115	100	130	70	99	160	150	106	168
21	225	180	180	105	105	125	70	110	170	150	99	165
22	225	180	180	100	105	125	80	110	170	147	102	161
23	220	180	180	100	105	125	90	110	180	146	98	132
24	215	180	180	100	105	115	85	115	190	142	97	95
25	215	180	180	100	105	110	100	130	175	148	98	94
26	215	180	180	100	105	110	105	160	170	180	98	93
27	175	180	180	99	100	110	120	210	180	184	104	92
28	115	180	180	99	100	110	130	290	190	160	95	92
29	110	180	180	98	---	110	130	410	190	150	90	89
30	90	180	180	98	---	110	160	450	170	150	92	87
31	90	---	180	98	---	100	---	450	---	154	90	---
TOTAL	6168	5240	5726	3945	2748	3450	3595	5138	10675	4691	3746	3380
MEAN	199	175	185	127	98.1	111	120	166	356	151	121	113
MAX	225	190	196	180	105	130	160	450	770	190	157	168
MIN	90	120	180	98	92	100	65	82	160	130	90	86
AC-FT	12230	10390	11360	7820	5450	6840	7130	10190	21170	9300	7430	6700

CAL YR 1980 TOTAL 139941 MEAN 382 MAX 2040 MIN 90 AC-FT 277600
WTR YR 1981 TOTAL 58502 MEAN 160 MAX 770 MIN 65 AC-FT 116000

NOTE.--NO GAGE-HEIGHT RECORD OCT. 24 TO DEC. 4, DEC. 8 TO MAY 4, MAY 14 TO JULY 21.

07083700 ARKANSAS RIVER NEAR MALTA, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1977 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT 23...	1300	218	--	89	--	7.0	10.8	39
DEC 04...	1615	196	--	109	7.5	3.0	9.3	43
JAN 16...	1315	103	--	146	6.5	.5	10.6	60
FEB 20...	0930	100	175	223	7.4	1.0	9.4	64
MAY 07...	1350	128	--	141	6.9	10.0	7.7	57
JUN 30...	1115	170	--	162	7.5	12.5	8.3	68
JUL 30...	1145	155	155	156	7.7	13.0	6.9	69
AUG 18...	1145	120	180	178	7.6	13.0	7.0	74
SEP 25...	1145	95	--	200	7.7	8.0	9.0	90

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 23...	9.7	3.5	1.9	.1	.5	--	20	.8	.1
DEC 04...	11	3.8	2.2	.1	.7	32	21	1.0	.2
JAN 16...	15	5.5	3.4	.2	.7	--	31	1.5	.2
FEB 20...	16	5.8	3.7	.2	.9	36	36	1.5	.2
MAY 07...	14	5.3	2.9	.2	.8	33	29	1.4	.1
JUN 30...	17	6.3	3.1	.2	.8	50	30	1.5	.2
JUL 30...	17	6.4	3.4	.2	.8	39	27	1.6	.1
AUG 18...	18	7.1	3.4	.2	1.0	53	32	1.8	.6
SEP 25...	22	8.6	4.1	.2	1.5	61	37	3.0	.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 23...	5.1	55	.07	32.4	.00	.020	80	130
DEC 04...	5.6	65	.09	34.4	.07	.000	80	210
JAN 16...	6.6	85	.12	23.6	.24	.030	90	300
FEB 20...	6.8	95	.13	25.6	.55	.020	80	370
MAY 07...	7.1	81	.11	28.0	.11	.010	190	350
JUN 30...	7.4	97	.13	44.5	.09	.010	130	230
JUL 30...	7.3	88	.12	36.8	.04	.010	310	220
AUG 18...	7.7	105	.14	34.0	.17	.020	220	210
SEP 25...	8.9	134	.18	34.4	.17	<.010	650	360

07084500 LAKE CREEK ABOVE TWIN LAKES RESERVOIR, CO

LOCATION.--Lat 39°03'47", long 106°24'26", Lake County, Hydrologic Unit 11020001, on left bank 1.2 mi (1.9 km) upstream from water line of Twin Lakes Reservoir at elevation 9,200 ft (2,804.2 m) and 1.9 mi (3.1 km) southwest of village of Twin Lakes.

DRAINAGE AREA.--75 mi^2 (194 km^2).

PERIOD OF RECORD.--April 1946 to September 1962, October 1963 to current year. Monthly discharge only for some periods, published in WSP 1241, 1311, and 1731.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1711: 1951(M), 1952.

GAGE.--Water-stage recorder. Altitude of gage is 9,310 ft (2,838 m), from topographic map. Prior to May 20, 1950, at site 190 ft (58 m) downstream at different datum. May 20, 1950, to Apr. 7, 1953, at site 10 ft (3 m) upstream at present datum.

REMARKS.--Records fair except those for winter period, which are poor. No diversion above station. Records include inflow from Roaring Fork River in Colorado River basin through Twin Lakes tunnel (see elsewhere in this report).

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--34 years (water years 1947-62, 1964-81), 166 ft^3/s (4.701 m^3/s), 120,300 acre-ft/yr (148 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,270 ft^3/s (92.6 m^3/s) June 15, 1978, gage height, 5.08 ft (1.548 m), from rating curve extended above 1,400 ft^3/s (40 m^3/s); minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,360 ft^3/s (38.5 m^3/s) at 2000 June 9, gage height, 4.07 ft (1.241 m); minimum daily, 6.5 ft^3/s (0.18 m^3/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	14	13	9.5	8.0	10	9.0	334	617	236	120	94
2	29	12	11	9.5	7.5	11	9.5	362	673	298	94	85
3	28	13	12	9.5	8.0	10	9.5	348	702	268	105	86
4	28	11	13	9.5	8.0	9.5	9.0	257	702	239	104	84
5	28	12	14	10	7.5	9.0	8.5	218	862	209	96	80
6	27	18	13	8.0	7.0	10	9.0	196	1030	190	89	80
7	26	20	13	8.5	7.5	9.5	9.5	171	1080	163	84	88
8	25	19	11	9.0	7.0	9.0	10	145	1100	158	82	86
9	25	18	10	8.0	8.0	8.5	11	124	1140	179	82	88
10	24	18	10	8.0	7.5	9.5	12	109	1140	232	89	96
11	24	18	11	8.0	6.5	10	13	113	1100	199	107	102
12	24	18	12	8.5	7.0	10	14	96	1000	190	104	104
13	27	19	13	8.5	7.0	10	14	90	846	242	107	124
14	28	15	12	8.0	7.5	11	15	90	604	264	102	126
15	31	12	11	8.5	8.5	11	16	94	461	190	111	115
16	28	13	11	8.5	8.0	11	16	93	415	187	138	107
17	28	11	11	9.0	8.5	9.0	19	94	395	239	126	102
18	28	12	11	9.5	8.5	8.0	23	93	431	275	109	94
19	25	12	12	9.0	8.5	8.0	25	105	410	236	98	89
20	25	12	11	8.5	9.5	8.5	25	111	461	196	94	86
21	22	11	10	8.5	9.0	7.0	26	109	491	168	91	88
22	22	11	11	8.5	8.5	7.5	27	104	491	152	94	82
23	20	12	11	8.5	9.0	8.0	26	102	443	140	91	76
24	18	13	10	8.5	9.5	8.5	35	120	400	131	89	74
25	22	12	10	8.5	9.5	8.5	46	155	370	131	89	91
26	22	11	11	7.5	10	9.0	60	193	344	190	88	88
27	23	10	11	8.0	9.5	9.5	70	268	326	218	89	56
28	16	11	11	9.0	9.0	9.0	125	425	334	182	84	54
29	12	12	12	9.5	---	8.5	179	539	302	152	80	65
30	13	13	11	8.5	---	9.0	222	564	250	138	93	80
31	13	---	10	8.5	---	8.5	---	638	---	131	94	---
TOTAL	741	413	353	269.0	229.5	285.5	1093.0	6460	18920	6123	3023	2670
MEAN	23.9	13.8	11.4	8.68	8.20	9.21	36.4	208	631	198	97.5	89.0
MAX	31	20	14	10	10	11	222	638	1140	298	138	126
MIN	12	10	10	7.5	6.5	7.0	8.5	90	250	131	80	54
AC-FT	1470	819	700	534	455	566	2170	12810	37530	12140	6000	5300

CAL YR 1980 TOTAL 52146.0 MEAN 142 MAX 1660 MIN 8.5 AC-FT 103400
WTR YR 1981 TOTAL 40580.0 MEAN 111 MAX 1140 MIN 6.5 AC-FT 80490

NOTE.--NO GAGE-HEIGHT RECORD NOV. 15 TO APR. 9.

07086000 ARKANSAS RIVER AT GRANITE, CO

LOCATION.--Lat 39°02'34", long 106°15'55", in SE¼SW¼ sec.31, T.11 S., R.79 W., Chaffee County, Hydrologic Unit 11020001, on right bank at Granite, 100 ft (30 m) east of U.S. Highway 24, 100 ft (30 m) downstream from county bridge, and 200 ft (61 m) upstream from Cache Creek.

DRAINAGE AREA.--427 mi^2 (1,106 km^2).

PERIOD OF RECORD.--April to October 1895, May to December 1897, August to September 1898, March to October 1899, April to May 1902 (gage heights and discharge measurements only in 1895, 1899, and 1901), April 1910 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1711: 1952, 1956(M).

GAGE.--Water-stage recorder. Datum of gage is 8,914.86 ft (2,717.249 km) National Geodetic Vertical Datum of 1929, supplementary adjustment of 1960. Prior to Apr. 6, 1910, nonrecording gages near present site at different datums. Apr. 6, 1910, to Oct. 25, 1917, water-stage recorder or nonrecording gage at site 832 ft (254 m) upstream at different datum. Oct. 26, 1917, to Oct. 26, 1960, water-stage recorder at site 168 ft (51 m) downstream at present datum.

REMARKS.--Records good. Diversions above station for irrigation of about 6,700 acres (27.1 km^2). Turquoise Lake and Twin Lakes Reservoir, on tributaries above station, have a combined capacity of 182,700 acre-ft (225 hm^3). Transmountain diversions from Colorado River basin to Arkansas River basin enter above this station (see elsewhere in this report).

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--71 years (water years 1911-81), 372 ft^3/s (10.54 m^3/s), 269,500 acre-ft/yr (332 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,360 ft^3/s (152 m^3/s) June 28, 1957, gage height, 7.20 ft (2.195 m); minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,760 ft^3/s (49.8 m^3/s) at 0530 June 9, gage height, 4.47 ft (1.362 m); minimum daily, 109 ft^3/s (3.09 m^3/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	266	165	238	223	120	129	148	573	903	492	612	768
2	266	196	235	223	120	129	179	687	948	545	596	604
3	266	211	235	220	120	129	176	840	1010	504	678	410
4	266	238	229	220	120	129	168	732	966	486	867	596
5	266	235	229	220	120	131	170	596	1020	480	858	580
6	266	235	229	220	120	131	176	517	1220	408	658	389
7	262	232	226	208	123	134	176	444	1360	360	876	274
8	254	229	226	176	123	131	182	340	1550	408	885	278
9	250	223	229	173	123	134	196	286	1590	438	867	290
10	247	223	223	173	120	127	217	278	1540	486	732	380
11	247	193	226	173	109	127	220	270	1460	492	437	462
12	247	193	223	173	111	136	214	254	1300	480	205	468
13	247	199	223	160	112	136	202	250	1060	504	165	396
14	250	211	223	123	112	136	199	266	939	426	276	360
15	266	223	223	123	114	150	205	270	696	402	220	396
16	266	220	223	123	116	157	182	258	538	390	232	385
17	278	220	226	123	116	160	176	258	504	480	241	360
18	278	223	232	123	114	157	179	254	538	566	244	300
19	278	229	229	123	129	157	179	254	678	531	235	258
20	278	235	226	121	129	155	196	258	921	531	232	266
21	282	232	226	118	129	152	223	262	921	696	232	258
22	278	232	223	118	127	155	232	266	725	858	235	250
23	274	232	226	120	129	155	226	266	795	1060	229	258
24	278	232	220	123	129	148	232	262	795	1100	238	258
25	274	232	223	123	129	145	244	274	652	1000	282	241
26	274	232	223	120	127	148	254	325	492	1040	300	226
27	278	235	226	120	127	150	300	426	450	1020	305	226
28	179	235	226	120	127	148	345	612	480	966	286	235
29	173	238	223	123	---	145	396	894	492	885	278	254
30	170	235	220	123	---	138	468	921	486	714	480	258
31	160	---	226	120	---	134	---	921	---	644	660	---
TOTAL	7864	6668	7015	4749	3395	4393	6660	13314	27029	19392	13841	10684
MEAN	254	222	226	153	121	142	222	429	901	626	446	356
MAX	282	238	238	223	129	160	468	921	1590	1100	885	768
MIN	160	165	220	118	109	127	148	250	450	360	165	226
AC-FT	15600	13230	13910	9420	6730	8710	13210	26410	53610	38460	27450	21190

CAL YR 1980 TOTAL 199678 MEAN 546 MAX 3410 MIN 120 AC-FT 396100
WTR YR 1981 TOTAL 125004 MEAN 342 MAX 1590 MIN 109 AC-FT 247900

07086500 CLEAR CREEK ABOVE CLEAR CREEK RESERVOIR, CO

LOCATION.--Lat 39°01'05", long 106°16'38", in SE¼ sec.12, T.12 S., R.80 W., Chaffee County, Hydrologic Unit 11020001, on right bank 0.5 mi (0.8 km) upstream from water line of Clear Creek Reservoir at elevation 8,875 ft (2,705.1 m), 1.5 mi (2.4 km) downstream from unnamed tributary, and 1.9 mi (3.1 km) southwest of Granite.

DRAINAGE AREA.--67.1 mi² (173.8 km²).

PERIOD OF RECORD.--May 1946 to current year. Monthly discharge only for some periods, published in WSP 1241 and 1311.

REVISED RECORDS.--WSP 2121: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 8,885 ft (2,708 m), from topographic map. May 7, 1946, to Apr. 20, 1954, water-stage recorder at site 133 ft (41 m) upstream at different datum. Apr. 21, 1954, to May 28, 1958, water-stage recorder 333 ft (101 m) upstream at different datum. Datum raised 2.19 ft (0.668 m) Apr. 21, 1954.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Diversions for irrigation of about 250 acres (1.01 km²) above station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--35 years, 66.5 ft³/s (1.883 m³/s), 48,180 acre-ft/yr (59.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,300 ft³/s (36.8 m³/s) June 29, 1957; maximum gage height recorded, 4.34 ft (1.323 m) June 16, 1952, site and datum then in use; minimum discharge, not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 356 ft³/s (10.1 m³/s) at 2300 June 7, gage height, 1.93 ft (0.588 m), no peak above base of 400 ft³/s (11 m³/s); minimum daily, 7.0 ft³/s (0.198 m³/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	18	16	14	9.0	9.5	9.0	56	160	78	46	39
2	28	18	14	14	9.5	10	9.5	59	180	99	46	36
3	28	18	15	14	9.5	9.5	9.5	74	178	78	44	40
4	27	18	16	14	9.0	9.0	9.0	56	164	69	42	38
5	27	18	17	16	8.0	8.5	8.5	51	215	62	37	37
6	27	18	16	15	7.5	9.0	9.0	49	285	59	35	38
7	26	18	16	16	8.0	8.5	9.8	43	270	55	35	44
8	25	18	14	15	7.5	8.0	10	39	265	56	34	49
9	25	17	12	14	8.0	7.5	11	35	276	59	35	72
10	25	16	13	14	7.5	8.0	12	34	245	62	39	74
11	24	16	14	14	7.0	9.0	12	34	228	54	45	64
12	23	17	15	15	8.0	9.0	13	31	205	55	45	63
13	23	17	14	15	8.0	9.0	13	30	178	56	44	63
14	24	17	14	14	9.0	10	13	30	148	54	40	60
15	27	16	13	14	10	10	14	30	111	58	39	58
16	25	17	13	14	9.0	10	14	30	102	56	40	54
17	24	16	13	15	9.5	9.5	15	29	106	78	37	51
18	24	18	13	16	9.5	9.0	16	28	104	72	34	49
19	23	18	14	14	9.5	9.0	17	30	97	64	32	48
20	23	18	13	12	10	9.5	17	31	109	58	34	46
21	23	17	12	12	9.5	8.5	16	30	109	54	35	46
22	22	17	14	12	9.0	9.0	17	30	109	50	37	43
23	22	18	14	12	9.5	9.5	17	29	100	49	33	43
24	20	19	13	12	10	9.5	20	29	92	46	35	43
25	21	18	13	12	10	9.5	24	34	85	50	37	42
26	22	15	15	10	11	10	27	43	83	74	37	40
27	22	13	15	11	10	10	31	53	83	76	36	38
28	22	14	15	12	9.0	9.0	32	78	90	58	34	37
29	20	15	17	13	---	8.5	36	115	83	51	33	36
30	19	16	16	11	---	9.0	45	123	90	49	37	35
31	19	---	15	11	---	8.5	---	173	---	46	38	---
TOTAL	738	509	444	417	251.0	282.5	506.3	1536	4550	1885	1175	1426
MEAN	23.8	17.0	14.3	13.5	8.96	9.11	16.9	49.5	152	60.8	37.9	47.5
MAX	28	19	17	16	11	10	45	173	285	99	46	74
MIN	19	13	12	10	7.0	7.5	8.5	28	83	46	32	35
AC-FT	1460	1010	881	827	498	560	1000	3050	9020	3740	2330	2830

CAL YR 1980 TOTAL 27966.0 MEAN 76.4 MAX 620 MIN 10 AC-FT 55470
WTR YR 1981 TOTAL 13719.8 MEAN 37.6 MAX 285 MIN 7.0 AC-FT 27210

NOTE.--NO GAGE-HEIGHT RECORD NOV. 14 TO APR. 7.

07089000 COTTONWOOD CREEK BELOW HOT SPRINGS, NEAR BUENA VISTA, CO

LOCATION.--Lat 38°48'46", long 106°13'18", in S½SE¼ sec.21, T.14 S., R.79 W., Chaffee County, Hydrologic Unit 11020001, on left bank 0.2 mi (0.3 km) downstream from Cottonwood Hot Springs, 0.9 mi (1.4 km) downstream from confluence of Middle Cottonwood and South Cottonwood Creeks, 2.9 mi (4.7 km) upstream from North Cottonwood Creek, and 5.5 mi (8.8 km) southwest of Buena Vista.

DRAINAGE AREA.--65.0 mi² (168 km²).

PERIOD OF RECORD.--October 1910 to September 1923, August 1949 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1177: 1915, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 8,532 ft (2,600.6 m), from river-profile survey. Prior to Oct. 1, 1923, nonrecording gage near present site at different datum.

REMARKS.--Records good. Several small diversions above station for irrigation. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--45 years (water years 1911-23, 1950-81), 55.4 ft³/s (1.569 m³/s), 40,140 acre-ft/yr (49.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,180 ft³/s (33.4 m³/s) July 1, 1957, gage height, 4.52 ft (1.378 m), from floodmarks, from rating curve extended above 690 ft³/s (20 m³/s); minimum observed, 10 ft³/s (0.28 m³/s) Mar. 20-23, 25, Apr. 9, 19, 1914.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 88 ft³/s (2.49 m³/s) at 0500 June 8, gage height, 1.78 ft (0.542 m), no peak above base of 300 ft³/s (8.5 m³/s); minimum daily, 14 ft³/s (0.40 m³/s) Apr. 5, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	37	32	30	25	21	15	46	74	34	25	26
2	39	36	32	30	25	21	15	48	69	47	25	25
3	39	35	32	30	25	21	15	52	67	41	24	25
4	39	35	32	30	24	20	15	52	68	35	23	25
5	39	35	32	30	24	20	14	43	65	32	23	25
6	38	35	32	30	23	20	15	41	69	31	22	26
7	38	35	32	29	23	20	15	37	78	29	20	29
8	37	35	32	29	23	19	15	29	79	28	18	34
9	38	35	32	29	23	19	14	27	77	29	18	35
10	37	34	32	29	23	19	15	31	73	30	21	34
11	37	34	31	29	23	19	15	31	64	28	32	34
12	37	35	31	29	23	19	16	29	62	30	28	34
13	37	35	31	29	23	19	16	27	56	31	29	34
14	37	36	31	29	23	18	16	27	51	30	31	33
15	40	33	31	28	23	18	16	28	47	29	28	32
16	39	32	31	28	23	18	16	30	41	27	33	31
17	38	32	31	28	23	18	18	30	39	28	33	34
18	37	32	31	28	23	18	19	28	38	30	31	36
19	37	32	31	28	23	17	20	29	37	28	28	34
20	37	32	31	28	23	17	21	32	36	23	27	29
21	38	32	31	27	22	17	20	32	35	21	26	28
22	38	32	31	27	22	17	20	30	34	21	25	27
23	37	32	31	26	22	17	20	29	33	22	25	27
24	36	32	30	26	22	17	23	32	32	23	31	27
25	37	32	30	26	22	16	26	35	32	24	32	26
26	38	32	30	26	22	17	32	40	32	27	29	24
27	38	32	30	26	21	16	34	42	34	39	28	25
28	37	32	30	25	21	16	32	60	38	33	27	25
29	36	32	30	25	---	16	34	66	37	28	26	25
30	37	32	30	25	---	16	40	65	34	26	26	24
31	37	---	30	25	---	15	---	71	---	25	26	---
TOTAL	1168	1005	963	864	642	561	602	1199	1531	909	820	873
MEAN	37.7	33.5	31.1	27.9	22.9	18.1	20.1	38.7	51.0	29.3	26.5	29.1
MAX	40	37	32	30	25	21	40	71	79	47	33	36
MIN	36	32	30	25	21	15	14	27	32	21	18	24
AC-FT	2320	1990	1910	1710	1270	1110	1190	2380	3040	1800	1630	1730

CAL YR 1980 TOTAL 21641 MEAN 59.1 MAX 478 MIN 16 AC-FT 42920
WTR YR 1981 TOTAL 11137 MEAN 30.5 MAX 79 MIN 14 AC-FT 22090

NOTE.--NO GAGE-HEIGHT RECORD NOV. 17 TO JAN. 15.

07091200 ARKANSAS RIVER NEAR NATHROP, CO

LOCATION.--Lat 38°39'08", long 106°03'02", in SE¼SW¼ sec.23, T.51 N., R.8 E., Chaffee County, Hydrologic Unit 11020001, on right bank 300 ft (90 m) upstream from end of Chaffee County Road 60 in Browns Canyon, 3.7 mi (5.9 km) downstream from Browns Creek, 6.7 mi (10.8 km) south of Nathrop, and 9 mi (14 km) north of Salida.

DRAINAGE AREA.--1,060 mi² (2,745 km²).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,350 ft (2,240 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions (see elsewhere in this report), storage reservoirs, power development, diversions for irrigation of about 15,000 acres (61 km²), and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--17 years, 632 ft³/s (17.90 m³/s), 457,900 acre-ft/yr (565 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,960 ft³/s (140 m³/s) June 12, 1980, gage height, 8.51 ft (2.594 m); maximum gage height, 9.94 ft (2.725 m) Aug. 31, 1972 (backwater from unnamed tributary); minimum daily discharge, 95 ft³/s (2.69 m³/s) Feb. 25-27, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,770 ft³/s (78.4 m³/s) at 0845 Aug. 9, gage height, 6.74 ft (2.094 m); minimum daily, 147 ft³/s (4.16 m³/s) Feb. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	335	363	316	321	212	153	161	601	501	627	698	1100
2	345	347	302	314	237	152	191	660	618	765	674	1250
3	345	344	332	318	238	156	182	845	727	749	912	389
4	295	334	315	314	237	155	190	852	856	671	909	927
5	288	335	305	319	191	154	158	676	1060	651	920	891
6	288	305	310	320	187	159	168	584	1020	613	944	788
7	285	286	320	313	182	163	170	515	831	591	1010	435
8	279	281	300	291	185	157	170	413	1080	489	1040	441
9	272	298	290	272	200	150	173	287	1200	545	1260	453
10	271	288	292	274	203	165	199	266	1470	600	991	524
11	269	289	300	269	188	163	213	249	1750	711	588	755
12	266	319	342	266	247	164	214	236	1610	766	456	757
13	266	323	311	260	192	162	194	284	1350	689	573	768
14	265	334	299	234	194	159	183	293	1140	581	453	668
15	313	289	308	210	200	158	180	274	990	549	496	768
16	307	266	314	203	195	196	174	308	739	528	505	778
17	359	256	304	204	210	206	158	324	691	676	496	722
18	378	319	337	190	206	196	160	326	685	723	446	638
19	377	297	344	205	200	198	161	325	718	676	416	425
20	374	296	334	220	195	198	150	322	1330	715	365	422
21	386	298	331	223	170	198	171	318	1340	760	354	409
22	377	301	333	224	151	198	222	311	900	924	350	379
23	361	317	346	226	158	204	217	310	824	1040	340	340
24	382	322	327	234	170	202	221	318	872	1200	326	342
25	380	302	344	229	163	191	234	312	886	1100	360	304
26	384	303	341	207	157	192	241	371	764	1170	399	274
27	469	292	335	206	147	192	250	383	660	1100	415	274
28	438	311	339	226	151	187	326	320	638	1050	389	276
29	360	320	340	247	---	179	354	231	657	896	350	315
30	317	323	326	216	---	179	464	238	664	772	434	318
31	303	---	334	218	---	156	---	338	---	694	1020	---
TOTAL	10334	9258	9971	7773	5366	5442	6249	12090	28511	23621	18889	17130
MEAN	333	309	322	251	192	176	208	390	950	762	609	571
MAX	469	363	346	321	247	206	464	852	1750	1200	1260	1250
MIN	265	256	290	190	147	150	150	231	501	489	326	274
AC-FT	20500	18360	19780	15420	10640	10790	12390	23980	56550	46850	37470	33980

CAL YR 1980 TOTAL 300902 MEAN 822 MAX 4890 MIN 152 AC-FT 596800
WTR YR 1981 TOTAL 154634 MEAN 424 MAX 1750 MIN 147 AC-FT 306700

07093700 ARKANSAS RIVER NEAR WELLSVILLE, CO

LOCATION.--Lat 38°30'10", long 105°56'21", in SW¼NE¼ sec.14, T.49 N., R.9 E., Chaffee County, Hydrologic Unit 11020001, on right bank 50 ft (15 m) upstream from Chaffee-Fremont County line, 2.0 mi (3.2 km) northwest of Wellsville, 2.8 mi (4.5 km) downstream from South Arkansas River, and 3.5 mi (5.6 km) southeast of Salida.

DRAINAGE AREA.--1,485 mi^2 (3,846 km^2).

PERIOD OF RECORD.--April 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,883.4 ft (2,098.06 m), National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation of about 26,000 acres (110 km^2), and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division Water Resources and reviewed by Geological Survey).

AVERAGE DISCHARGE.--20 years, 685 ft^3/s (19.40 m^3/s), 496,300 acre-ft/yr (612 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,240 ft^3/s (177 m^3/s) June 12, 1980, gage height, 8.02 ft (2.444 m); minimum daily, 110 ft^3/s (3.12 m^3/s) Jan. 12, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,730 ft^3/s (49.0 m^3/s) at 1100 June 9, gage height, 5.49 ft (1.673 m); minimum daily, 174 ft^3/s (4.93 m^3/s) Apr. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	431	467	444	395	264	226	191	516	908	555	670	660
2	444	467	436	391	250	216	208	585	934	680	670	794
3	444	467	436	395	258	226	219	728	962	675	645	426
4	418	449	431	391	272	230	216	770	1050	600	806	575
5	404	454	426	387	264	222	174	640	969	590	848	625
6	400	431	422	387	261	230	188	550	1170	560	836	615
7	395	413	422	387	253	244	180	498	1620	560	878	426
8	387	408	413	367	258	236	188	404	1540	490	908	422
9	375	413	395	343	287	230	202	327	1650	512	927	418
10	379	413	395	339	272	236	216	295	1580	535	969	426
11	383	472	400	335	216	236	230	279	1490	610	752	535
12	383	436	431	331	258	236	264	268	1400	660	503	570
13	383	426	418	323	287	230	254	244	1190	635	387	575
14	383	440	422	307	283	226	236	250	1000	580	343	530
15	422	418	408	279	287	222	222	311	890	526	458	540
16	426	395	413	283	287	254	222	287	655	498	440	565
17	449	391	408	283	291	275	198	247	605	503	431	560
18	476	444	418	283	291	264	194	244	595	610	440	526
19	476	454	422	279	287	264	198	244	610	645	422	418
20	485	454	418	287	279	272	188	244	1070	615	395	395
21	503	436	413	295	258	264	205	244	1170	645	363	395
22	498	440	422	299	236	258	258	250	878	812	339	379
23	494	449	418	303	247	258	264	299	675	890	327	359
24	494	458	404	307	250	240	240	307	764	1150	311	359
25	490	449	404	295	240	222	219	299	776	990	331	339
26	485	426	418	272	233	226	222	331	710	1080	351	323
27	526	426	408	272	219	222	254	408	560	1100	363	311
28	555	431	408	283	222	219	347	550	565	976	355	307
29	472	454	422	303	---	205	379	746	585	969	331	323
30	454	454	395	275	---	202	454	927	595	788	323	339
31	431	---	391	275	---	198	---	934	---	758	615	---
TOTAL	13745	13135	12881	9951	7315	7289	7030	13226	29166	21797	16737	14035
MEAN	443	438	416	321	261	235	234	427	972	703	540	468
MAX	555	472	444	395	291	275	454	934	1650	1150	969	794
MIN	375	391	391	272	216	198	174	244	560	490	311	307
AC-FT	27260	26050	25550	19740	14510	14460	13940	26230	57850	43230	33200	27840

CAL YR 1980 TOTAL 332454 MEAN 908 MAX 5980 MIN 216 AC-FT 659400
WTR YR 1981 TOTAL 166307 MEAN 456 MAX 1650 MIN 174 AC-FT 329900

07093740 BADGER CREEK, UPPER STATION NEAR HOWARD, CO

LOCATION.--Lat 38°39'25", long 105°48'45", in SE¼NE¼ sec.24, T.50 N., R.10 E., Fremont County, Hydrologic Unit 11020001, on left bank 0.4 mi (0.6 km) downstream from County Road 2, 0.7 mi (1.1 km) upstream from Steer Creek, 14.0 mi (22.5 km) north of Howard, and 14.3 mi (23.0 km) upstream from mouth.

DRAINAGE AREA.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1980 to September 1981.

GAGE.--Water-stage recorder. Altitude of gage is 8,780 ft (2,676 m), from topographic map.

REMARKS.--Records good except those between 8 ft^3/s (0.23 m^3/s) and 250 ft^3/s (7.08 m^3/s), which are fair.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20 ft^3/s (0.57 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
July 7	1800	65	1.84	5.65	1.722	Aug. 16	0100	45	1.27	5.27	1.606
Aug. 4	0400	22	0.62	4.76	1.451	Sept. 4	2100	186	5.27	5.90	1.798
Aug. 10	1700	27	0.76	4.91	1.497	Sept. 4	2300	a*254	7.19	6.62	2.018

a From rating curve extended above 7.0 ft^3/s (0.20 m^3/s) on basis of slope-area measurement of peak flow.

Minimum daily discharge, 3.2 ft^3/s (0.09 m^3/s) Jan. 14, 16, 17, 19-22, Feb. 8, 12-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	3.5	3.4	4.0	4.3	3.7	4.5	4.7	4.0	4.8
2			---	3.6	3.4	4.0	4.9	3.8	4.4	4.6	3.9	4.5
3			---	3.6	3.4	4.0	4.9	3.9	4.5	4.6	3.8	4.5
4			---	3.6	3.4	4.1	4.2	4.0	4.6	4.2	6.8	28
5			---	3.6	3.3	4.1	4.2	4.0	4.7	3.9	3.8	11
6			---	3.6	3.3	4.0	4.4	4.0	4.8	3.8	3.8	4.6
7			---	3.6	3.3	4.0	4.5	4.1	4.9	8.2	4.3	4.3
8			---	3.6	3.2	4.1	4.1	4.1	4.9	5.6	4.3	4.5
9			---	3.5	3.3	4.1	3.7	4.1	5.0	4.8	3.8	4.5
10			---	3.5	3.3	4.1	4.0	4.3	5.0	4.6	6.2	4.3
11			---	3.5	3.3	4.1	4.0	4.4	5.0	4.5	5.6	4.2
12			---	3.5	3.2	4.1	4.1	4.3	5.1	4.4	5.2	4.2
13			---	3.4	3.2	4.1	3.8	4.4	5.1	4.6	5.1	4.2
14			---	3.2	3.2	4.0	3.7	4.5	5.1	4.5	5.0	4.0
15			---	3.3	3.3	4.0	3.6	4.5	5.0	4.5	4.8	4.0
16			---	3.2	3.3	4.0	3.8	4.5	5.1	4.5	14	4.0
17			---	3.2	3.4	3.9	3.7	4.6	5.2	4.5	6.4	4.0
18			3.7	3.3	3.4	3.9	3.7	4.6	5.1	4.5	5.3	4.0
19			3.7	3.2	3.5	4.0	3.6	4.6	5.2	4.4	5.1	4.0
20			3.7	3.2	3.6	4.0	3.4	4.6	5.2	4.4	5.1	3.9
21			3.6	3.2	3.7	3.9	3.3	4.6	5.3	4.4	5.0	3.9
22			3.6	3.2	3.7	3.9	3.4	4.6	5.3	4.4	5.0	3.9
23			3.6	3.3	3.7	4.0	3.3	4.6	5.5	4.4	5.0	3.9
24			3.5	3.3	3.8	4.1	3.3	4.6	5.6	4.4	5.0	3.9
25			3.5	3.3	4.0	4.1	3.4	4.6	5.4	4.4	5.0	3.8
26			3.5	3.3	4.0	4.3	3.4	4.5	5.3	4.4	4.8	3.8
27			3.5	3.3	4.0	4.5	3.4	4.4	5.4	4.4	5.8	3.7
28			3.5	3.4	4.0	4.2	3.5	4.4	5.3	4.4	4.6	3.7
29			3.5	3.5	---	4.2	3.5	4.3	5.1	4.3	4.6	3.7
30			3.5	3.5	---	4.4	3.6	4.4	4.9	4.2	4.6	3.6
31			3.5	3.5	---	4.3	---	4.4	---	4.2	4.5	---
TOTAL			---	105.5	97.6	126.5	114.7	134.4	151.5	141.7	160.2	153.4
MEAN			---	3.40	3.49	4.08	3.82	4.34	5.05	4.57	5.17	5.11
MAX			---	3.6	4.0	4.5	4.9	4.6	5.6	8.2	14	28
MIN			---	3.2	3.2	3.9	3.3	3.7	4.4	3.8	3.8	3.6
AC-FT			---	209	194	251	228	267	301	281	318	304

07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB 25...	1415	4.0	--	1530	7.5	15.0	6.1	K4	K22
MAY 29...	1615	4.1	1210	1250	7.7	14.5	--	>150	>200
JUL 01...	1215	4.7	1440	1490	7.0	16.5	6.4	>1200	--
23...	1600	4.4	--	1500	6.8	16.0	--	<10	--
AUG 21...	1515	5.0	1420	1440	7.1	17.5	5.0	>240	>400
SEP 23...	1430	4.0	1420	1380	6.9	16.5	8.0	K6	>1000

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
FEB 25...	290	75	26	180	4.6	12	200	88	290
MAY 29...	270	70	22	150	4.0	9.7	190	78	230
JUL 01...	300	76	26	180	4.5	11	200	93	300
23...	300	76	26	180	4.9	11	200	85	310
AUG 21...	280	72	24	170	4.8	11	200	83	280
SEP 23...	280	72	25	180	5.0	11	190	84	290

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
FEB 25...	.4	21	814	1.1	8.8	.38	.040	<10	3
MAY 29...	.4	26	702	.95	7.8	.27	.010	30	20
JUL 01...	.4	23	832	1.1	10.6	.42	.010	30	5
23...	.3	23	834	1.1	9.9	.44	<.010	19	4
AUG 21...	.5	24	787	1.1	10.6	.48	.020	140	9
SEP 23...	.5	23	801	1.1	8.7	.38	.050	20	6

K BASED ON NON-IDEAL COLONY COUNT.

07093775 BADGER CREEK, LOWER STATION NEAR HOWARD, CO

LOCATION.--Lat 38°57'59", long 105°51'06", in SW¼SW¼ sec.27, T.49 N., R.10 E., Fremont County, Hydrologic Unit 11020001, on left bank 300 ft (91 m) upstream from Denver and Rio Grande Railroad bridge, 600 ft (183 m) upstream from mouth, and 1.8 mi (2.9 km) northwest of Howard.

DRAINAGE AREA.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1980 to September 1981.

GAGE.--Water-stage recorder. Altitude of gage is 6,780 ft (2,066 m), from topographic map.

REMARKS.--Records good except those between 8 ft³/s (0.23 m³/s) and 260 ft³/s (7.36 m³/s) and those for winter period, which are fair.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20 ft³/s (0.57 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Aug. 8	0100	35	0.99	4.70	1.433	Aug. 31	1800	169	4.79	5.24	1.597
Aug. 16	0700	22	0.62	4.57	1.393	Sept. 5	0100	a*267	7.56	b5.52	1.682
Aug. 31	1700	66	1.87	4.81	1.466						

a From rating curve extended above 7.0 ft³/s (0.20 m³/s) on basis of slope-area measurement of peak flow.
b From floodmark.

Minimum daily discharge, 0.73 ft³/s (0.02 m³/s) Sept. 11-19, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	5.8	5.8	6.0	5.1	7.1	5.8	5.2	4.0	5.8
2			5.2	6.4	5.8	5.3	5.7	7.4	5.2	5.2	3.8	5.8
3			5.8	6.4	5.4	5.2	7.8	7.2	5.2	5.8	3.8	4.6
4			5.2	6.4	5.4	5.1	7.6	7.0	5.2	5.8	6.4	4.6
5			5.2	6.4	5.4	5.1	7.2	7.0	5.8	5.8	7.0	33
6			5.2	6.4	5.4	5.5	6.8	6.8	6.4	5.2	5.8	.81
7			5.2	6.4	5.4	6.7	7.5	6.6	5.2	5.2	6.4	.98
8			5.2	6.4	5.2	6.2	8.3	6.8	4.6	11	9.2	.81
9			4.6	5.8	5.2	5.3	8.3	7.0	5.2	7.6	7.6	.81
10			7.0	5.8	5.2	6.5	9.0	6.8	5.2	7.0	8.2	.81
11			5.2	5.8	4.6	6.0	11	6.8	5.2	6.4	9.4	.73
12			5.8	5.8	4.0	5.1	12	6.8	4.6	6.4	7.6	.73
13			5.8	6.4	4.0	5.0	12	7.0	4.6	6.4	6.4	.73
14			5.8	6.4	4.0	5.0	11	6.4	4.6	5.8	6.4	.73
15			6.4	5.8	4.0	4.7	10	6.4	5.2	5.2	6.4	.73
16			7.0	5.8	4.0	5.0	9.9	7.0	5.2	4.6	16	.73
17			7.0	6.4	4.6	6.1	10	6.4	5.2	4.6	17	.73
18			6.4	6.4	4.6	5.1	11	6.4	5.2	4.6	8.8	.73
19			6.4	6.4	4.6	4.5	8.0	7.0	5.2	4.6	7.0	.73
20			6.4	7.0	4.6	5.5	8.8	7.0	5.2	4.0	6.4	.81
21			6.4	6.4	5.2	5.4	8.8	5.8	4.6	4.0	6.4	.81
22			7.0	6.4	4.6	4.4	9.4	6.4	4.6	4.0	5.8	.81
23			7.0	5.8	4.6	4.3	8.9	6.4	4.6	4.0	5.8	.81
24			7.0	5.8	4.6	4.2	8.4	6.4	4.6	4.0	5.8	.85
25			7.0	5.8	4.6	4.2	8.0	6.4	5.2	4.6	5.8	.81
26			7.0	5.2	4.6	4.5	7.8	6.4	4.6	7.0	5.2	.73
27			7.0	5.2	5.0	6.0	8.2	6.4	3.8	7.0	7.7	.81
28			5.8	5.2	5.8	5.7	8.0	6.4	3.8	6.4	10	.90
29			5.8	5.8	---	5.2	8.0	6.4	4.6	4.0	8.2	.90
30			5.8	5.8	---	5.3	7.5	5.8	4.6	4.0	6.4	.90
31			5.8	5.8	---	5.2	---	5.8	---	4.0	13	---
TOTAL			---	187.6	136.2	163.3	260.0	205.5	149.0	169.4	233.7	73.73
MEAN			---	6.05	4.86	5.27	8.67	6.63	4.97	5.46	7.54	2.46
MAX			---	7.0	5.8	6.7	12	7.4	6.4	11	17	33
MIN			---	5.2	4.0	4.2	5.1	5.8	3.8	4.0	3.8	.73
AC-FT			---	372	270	324	516	408	296	336	464	146

07093775 BADGER CREEK NEAR HOWARD, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB									
26...	1130	4.5	1100	1110	8.6	7.5	11.3	K1	40
MAY									
29...	1030	6.1	1030	1050	8.3	13.0	--	>150	>200
JUN									
25...	2130	5.0	1100	1120	7.9	16.0	6.5	>600	>1000
JUL									
31...	1700	4.2	1025	1060	8.6	23.5	6.4	<10	--
AUG									
20...	1200	6.4	1080	1060	8.5	22.0	7.5	>240	>400
SEP									
24...	1030	.85	1120	1130	7.8	14.0	9.2	K24	790

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
FEB									
26...	270	70	22	120	3.2	7.5	170	94	190
MAY									
29...	250	65	21	120	3.3	8.0	160	92	200
JUN									
25...	230	59	21	130	3.7	9.5	140	110	210
JUL									
31...	190	43	21	130	4.5	9.8	96	86	230
AUG									
20...	230	57	21	120	3.7	9.4	140	81	200
SEP									
24...	290	77	23	120	3.3	9.5	200	93	220

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
FEB									
26...	.4	21	627	.85	7.6	.00	.060	<10	2
MAY									
29...	.5	23	626	.85	10.3	.02	.020	20	4
JUN									
25...	.5	21	645	.88	8.7	.01	.020	40	10
JUL									
31...	.5	22	607	.83	6.9	1.5	.020	43	10
AUG									
20...	.0	27	601	.82	10.4	.16	.010	430	27
SEP									
24...	.6	26	690	.94	1.6	.06	.050	79	72

K BASED ON NON-IDEAL COLONY COUNT.

07094025 ARKANSAS RIVER AT PARKDALE SIDING NEAR PARKDALE, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°29'07", long 105°23'56", in NW¼NW¼ sec.13, T.18 S., R.72 W., Fremont County, Hydrologic Unit 11020001, at Parkdale Siding, 1.1 mi (1.8 km) upstream from Tallahassee Creek.

PERIOD OF RECORD.--January to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JAN									
13...	1015	354	300	304	7.4	.5	12.1	37	6.3
MAY									
01...	1000	470	--	227	7.9	15.0	8.3	27	5.4
JUN									
03...	0900	1180	--	151	7.6	15.3	8.1	23	3.0
17...	0830	651	--	194	8.0	14.5	7.8	18	4.0
JUL									
17...	0845	574	242	233	7.6	19.0	6.8	31	5.4
AUG									
04...	0900	630	--	203	7.8	18.6	6.5	23	4.9
10...	1745	1120	--	172	7.0	18.0	8.0	16	3.2
SEP									
08...	0950	425	--	200	8.1	15.5	7.2	23	3.8

DATE	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	LEAD, DIS-SOLVED (UG/L AS PB)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)
JAN									
13...	1	0	0	8	2	0	0	5.8	.3
MAY									
01...	1	200	0	7	0	0	0	2.9	1.0
JUN									
03...	1	0	1	12	2	0	1	2.0	2.0
17...	1	100	1	4	3	0	0	2.3	.3
JUL									
17...	1	0	1	5	0	0	0	3.3	.8
AUG									
04...	0	100	3	9	7	0	0	--	1.6
10...	0	100	4	18	16	0	0	--	6.5
SEP									
08...	0	100	0	10	4	0	0	4.3	2.9

DATE	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)
JAN								
13...	8.6	<.4	3.0	.6	2.9	.6	<.1	6.9
MAY								
01...	4.3	1.4	2.4	1.7	2.3	1.6	<.1	3.5
JUN								
03...	2.9	2.9	2.6	2.6	2.5	2.5	--	1.7
17...	<3.4	<.4	2.3	.6	2.2	.6	<.1	2.6
JUL								
17...	4.8	1.2	1.8	1.2	1.7	1.1	<.1	2.6
AUG								
04...	<4.3	2.3	2.9	1.7	2.8	1.5	<.1	2.4
10...	<3.8	9.6	<1.9	5.0	<1.8	4.8	1.1	3.2
SEP								
08...	6.3	4.2	3.4	3.3	3.3	3.1	.1	4.3

07094090 CURRANT CREEK ABOVE COTTONWOOD CREEK NEAR PARKDALE, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°31'46", long 105°23'14", in NE¼NE¼ sec.36, T.17 S., R.72 W., Fremont County, Hydrologic Unit 11020001, at the bridge on Highway 9, 1.0 mi (1.6 km) upstream from Cottonwood Creek.

PERIOD OF RECORD.--January to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JAN										
13...	1400	5.7	700	722	8.5	1.0	11.9	--	66	22
MAY										
01...	1330	1.0	649	619	8.8	25.0	7.6	--	65	25
JUN										
03...	1400	7.2	--	520	8.6	11.0	8.4	--	50	24
17...	1300	1.0	710	683	8.4	25.5	6.8	--	3.2	27
JUL										
17...	1040	.30	674	656	8.1	24.5	7.4	--	70	33
AUG										
04...	1030	.68	700	690	8.1	22.5	6.7	--	60	31
10...	1845	31	--	342	7.9	13.0	8.5	130	3.0	12
SEP										
08...	1325	4.6	--	680	8.4	20.5	6.5	--	59	22

DATE	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	LEAD, DIS-SOLVED (UG/L AS PB)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)
JAN									
13...	2	100	0	25	2	1	0	44	5.0
MAY									
01...	1	200	0	1	0	2	0	30	.7
JUN									
03...	2	10	1	15	5	0	1	13	75
17...	2	100	1	5	1	0	0	21	.7
JUL									
17...	1	100	0	3	0	0	0	33	.3
AUG									
04...	1	100	0	9	2	0	0	23	--
10...	--	200	0	210	0	1	0	3.1	410
SEP									
08...	1	100	2	10	3	1	0	27	5.4

DATE	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)
JAN								
13...	64	7.3	9.1	6.2	8.7	6.0	<.1	23
MAY								
01...	44	1.1	9.7	1.8	9.2	1.7	<.1	23
JUN								
03...	19	110	11	71	10	69	--	13
17...	31	1.0	11	.8	11	.8	.1	22
JUL								
17...	48	<.4	12	.6	11	.6	<.1	24
AUG								
04...	34	<.4	13	<.4	13	<.4	.1	22
10...	4.5	610	12	380	12	360	<.1	11
SEP								
08...	39	7.9	9.8	6.9	9.2	6.7	<.1	17

07094200 COTTONWOOD CREEK ABOVE SAND GULCH NEAR PARKDALE, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°32'42", long 105°25'52", in NE¼NW¼ sec.27, T.17 S., R.72 W., Fremont County, Hydrologic Unit 11020001, 0.5 mi (0.8 km) west of Highway 9 and 2.6 mi (4.2 km) upstream from mouth.

PERIOD OF RECORD.--January to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JAN 13...	1515	1.4	--	771	8.4	1.5	12.1	--	69	33
MAY 01...	1415	.70	772	756	8.4	22.0	7.1	--	60	48
JUN 03...	1300	5.0	755	754	8.3	22.0	7.4	--	59	49
17...	1230	.62	795	788	8.1	21.0	7.1	--	--	47
JUL 17...	1125	.03	750	765	7.7	22.0	6.7	--	77	42
AUG 04...	1100	.10	790	795	8.0	20.0	7.1	--	23	45
10...	2015	23	--	215	7.5	9.0	8.1	76	20	4.7
SEP 08...	1410	1.9	--	826	8.3	20.5	6.4	--	<5.0	58

DATE	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	LEAD, DIS-SOLVED (UG/L AS PB)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)
JAN 13...	2	100	0	15	1	1	0	29	1.2
MAY 01...	1	300	0	2	0	1	0	33	.3
JUN 03...	2	100	0	6	0	0	1	29	4.1
17...	1	0	1	3	2	0	0	--	.3
JUL 17...	1	100	2	3	1	0	0	26	.3
AUG 04...	1	200	1	11	2	0	0	12	.6
10...	--	100	0	190	1	0	0	8.8	7500
SEP 08...	1	100	0	14	2	0	0	18	3.5

DATE	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)
JAN 13...	43	1.7	12	3.2	11	3.0	<.1	31
MAY 01...	49	<.4	14	.5	13	.5	<.1	29
JUN 03...	43	6.1	11	6.7	10	6.4	--	24
17...	--	.4	6.9	.4	6.6	.4	<.1	18
JUL 17...	38	<.4	9.7	.9	9.3	.9	<.1	23
AUG 04...	18	.9	13	2.4	12	2.3	.2	23
10...	13	11000	13	7600	12	7400	.7	6.4
SEP 08...	27	5.1	16	6.9	15	6.5	.1	19

07094300 TALLAHASSEE CREEK ABOVE CURRANT CREEK NEAR PARKDALE, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°29'46", long 105°24'50", in NE¼SW¼ sec.11, T.18 S., R.72 W., Fremont County, Hydrologic unit 11020001, 0.6 mi (1.0 km) upstream from Currant Creek and 1.25 mi (2.0 km) upstream from mouth.

PERIOD OF RECORD.--January to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JAN										
13...	1630	.77	--	476	8.2	.5	11.8	--	44	11
MAY										
01...	1130	.50	498	504	8.4	17.0	7.7	--	46	16
JUN										
03...	1030	5.1	476	472	8.2	16.5	7.8	--	45	10
17...	0945	.30	593	683	8.3	16.5	7.6	--	50	28
AUG										
10...	1845	44	--	247	--	--	--	83	2.0	15
SEP										
08...	1110	.73	--	475	8.3	16.5	7.1	--	14	15

DATE	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	LEAD, DIS-SOLVED (UG/L AS PB)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)
JAN									
13...	3	100	0	7	3	2	0	23	.3
MAY									
01...	2	200	0	1	0	2	0	17	.3
JUN									
03...	3	100	0	4	0	1	1	13	3.2
17...	1	100	2	4	2	0	0	23	1.4
AUG									
10...	--	400	0	160	0	--	0	--	1000
SEP									
08...	2	400	1	10	2	1	0	19	1.2

DATE	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)
JAN								
13...	34	<.4	7.7	1.3	7.3	1.3	<.1	20
MAY								
01...	25	<.4	8.1	.7	7.6	.8	.1	17
JUN								
03...	19	4.7	8.5	5.9	8.2	5.7	--	24
17...	34	2.1	8.5	1.2	8.3	1.2	<.1	23
AUG								
10...	<6.8	1500	9.4	640	9.0	620	.7	2.6
SEP								
08...	28	1.8	10	4.0	9.9	3.8	.2	20

07094500 ARKANSAS RIVER AT PARKDALE, CO

LOCATION.--Lat 38°29'14", long 105°22'23", in NE¼NW¼ sec.18, T.18 S., R.71 W., Fremont County, Hydrologic Unit 11020001, on left bank at Parkdale, 100 ft (30 m) upstream from Bumback Gulch, 300 ft (90 m) upstream from bridge on U.S. Highway 50, and 0.9 mi (1.4 km) upstream from Copper Gulch.

DRAINAGE AREA.--2,548 mi² (6,599 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to September 1955, October 1964 to current year. Monthly discharge only for October 1945 to May 1946, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,720 ft (1,473 m), from topographic map. Prior to Oct. 1, 1964, at site 600 ft (180 m) downstream at different datum.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, diversions for irrigation of about 35,000 acres (140 km²) above station, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--27 years (water years 1946-81), 766 ft³/s (21.69 m³/s), 555,000 acre-ft/yr (684 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,880 ft³/s (167 m³/s) June 22, 1947, gage height, 9.02 ft (2.749 m), site and datum then in use, from rating curve extended above 3,000 ft³/s (85 m³/s); minimum daily, 200 ft³/s (5.66 m³/s) Jan. 5-7, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,110 ft³/s (59.8 m³/s) at 1945 June 9, gage height, 4.74 ft (1.445 m); minimum daily, 236 ft³/s (6.68 m³/s) Apr. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	458	500	524	453	312	270	261	477	1150	569	699	805
2	474	536	517	454	292	268	253	580	1120	585	655	851
3	479	522	512	452	307	282	276	698	1170	741	643	746
4	478	518	517	452	319	289	255	899	1300	633	744	506
5	440	512	505	450	318	271	253	775	1220	587	899	757
6	435	506	503	450	314	273	238	663	1350	565	870	699
7	430	486	500	445	310	295	239	577	1820	546	940	654
8	427	469	498	440	306	291	236	496	1920	520	1010	498
9	417	467	461	435	321	284	241	409	2010	492	1050	484
10	412	473	456	430	316	281	238	336	1960	517	1120	487
11	424	490	467	420	245	292	254	322	1890	569	1010	545
12	428	533	488	410	296	292	280	307	1780	638	708	661
13	430	493	505	400	341	284	299	292	1530	660	468	650
14	429	518	474	390	334	280	289	263	1250	624	373	638
15	467	507	474	380	328	282	278	311	1080	518	427	601
16	487	471	487	370	324	282	274	350	804	494	451	646
17	478	456	482	360	318	324	261	290	626	466	470	659
18	535	479	482	360	323	317	249	281	593	534	436	629
19	541	538	498	355	317	307	247	279	609	654	425	575
20	538	525	491	350	310	322	246	277	937	625	392	462
21	556	520	487	357	314	320	239	273	1370	597	368	464
22	559	512	485	348	279	309	280	272	1170	744	338	447
23	555	521	498	358	275	319	314	298	743	913	327	435
24	548	534	478	355	286	310	309	345	798	1220	315	412
25	546	533	471	350	294	287	277	345	814	1170	314	412
26	539	520	488	334	287	280	262	348	886	1190	332	397
27	546	494	488	324	274	284	269	400	625	1300	353	381
28	648	511	488	352	260	284	337	511	540	1160	377	371
29	558	525	482	349	---	279	399	706	577	1080	340	362
30	526	527	475	343	---	273	436	1080	586	929	318	376
31	500	---	454	328	---	270	---	1100	---	765	481	---
TOTAL	15288	15196	15135	12054	8520	9001	8289	14560	34228	22605	17653	16610
MEAN	493	507	488	389	304	290	276	470	1141	729	569	554
MAX	648	538	524	454	341	324	436	1100	2010	1300	1120	851
MIN	412	456	454	324	245	268	236	263	540	466	314	362
AC-FT	30320	30140	30020	23910	16900	17850	16440	28880	67890	44840	35010	32950

CAL YR 1980 TOTAL 386267 MEAN 1055 MAX 5690 MIN 310 AC-FT 766200
WTR YR 1981 TOTAL 189139 MEAN 518 MAX 2010 MIN 236 AC-FT 375200

07094500 ARKANSAS RIVER AT PARKDALE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	SPECIFIC CONDUCTANCE LAB (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JAN									
13...	1200	360	305	313	8.2	.5	11.6	38	7.1
MAY									
01...	1215	470	221	228	8.2	16.5	8.5	29	5.4
JUN									
03...	1130	1180	--	159	7.9	16.5	7.7	24	3.0
17...	1045	651	185	593	8.0	17.0	8.1	16	4.2
JUL									
17...	0945	574	248	235	7.8	20.0	6.7	33	5.9
AUG									
04...	1000	630	--	205	7.8	19.5	6.4	22	4.1
10...	2000	1220	181	182	7.0	16.0	7.3	11	4.1
SEP									
08...	1215	430	--	265	8.0	18.0	7.1	26	4.8

DATE	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	LEAD, DISSOLVED (UG/L AS PB)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	GROSS ALPHA, DISSOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)
JAN									
13...	2	100	1	8	2	0	0	8.2	.3
MAY									
01...	1	200	0	3	0	0	0	3.4	1.2
JUN									
03...	1	0	1	5	3	0	1	3.2	1.4
17...	2	100	2	5	2	0	0	<5.2	<.3
JUL									
17...	1	0	1	5	0	0	0	<2.2	.7
AUG									
04...	1	100	1	8	6	0	0	4.6	.6
10...	--	200	0	160	1	0	0	<3.1	75
SEP									
08...	1	100	2	7	3	0	0	4.8	3.2

DATE	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RA-226, DISSOLVED, PLANCHET COUNT (PCI/L)	URANIUM NATURAL DISSOLVED (UG/L AS U)
JAN								
13...	12	<.4	3.2	1.2	3.0	1.2	<.1	7.9
MAY								
01...	5.0	1.7	3.4	4.6	3.2	4.3	<.1	3.8
JUN								
03...	4.7	2.1	2.9	2.0	2.8	1.9	--	2.0
17...	<7.6	<.4	<5.5	.5	<5.2	.5	<.1	2.2
JUL								
17...	<3.3	1.0	2.7	.8	2.6	.7	<.1	4.0
AUG								
04...	6.7	.9	3.2	1.1	3.0	1.1	<.1	3.6
10...	<4.6	110	4.1	52	3.9	50	.7	4.0
SEP								
08...	7.1	4.7	3.2	3.4	3.0	3.2	<.1	4.1

07095000 GRAPE CREEK NEAR WESTCLIFFE, CO

LOCATION.--Lat 38°11'10", long 105°28'59", in NW¼NW¼ sec.31, T.21 S., R.72 W., Custer County, Hydrologic Unit 11020001, on left bank 0.5 mi (0.8 km) upstream from water line of De Weese Reservoir at elevation 7,665 ft (2,336.3 m), 0.5 mi (0.8 km) downstream from Swift Creek, and 3.6 mi (5.8 km) northwest of Westcliffe.

DRAINAGE AREA.--320 mi^2 (829 km^2).

PERIOD OF RECORD.--October 1924 to September 1961, October 1962 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1241: 1950(M). WSP 1311: 1927(M).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,690 ft (2,344 m), from topographic map. Prior to Mar. 17, 1939, at site 30 ft (9 m) upstream at present datum.

REMARKS.--Records good except those for winter period, which are poor. Diversions above station for irrigation of about 15,000 acres (60.7 km^3). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--56 years (water years 1925-61, 1963-81), 31.7 ft^3/s (0.898 m^3/s), 22,970 acre-ft/yr (28.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,460 ft^3/s (211 m^3/s) Aug. 2, 1966, gage height, 8.45 ft (2.576 m), from rating curve extended above 320 ft^3/s (9.1 m^3/s), on basis of slope-area measurement of peak flow; minimum daily, 0.1 ft^3/s (0.003 m^3/s) June 19-22, 1936.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft^3/s (7.1 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	(m^3/s)	Gage height (ft)	(m)	Date	Time	Discharge (ft^3/s)	(m^3/s)	Gage height (ft)	(m)
Aug. 10	2100	281	7.96	2.02	0.616	Aug. 16	1900	*465	13.2	2.56	0.780

Minimum daily discharge, 1.8 ft^3/s (0.051 m^3/s) June 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	14	17	14	17	20	34	5.8	4.7	8.9	6.4	61
2	8.0	14	17	15	18	20	27	5.8	5.2	8.9	6.4	28
3	8.0	14	18	15	18	19	21	5.8	5.8	9.8	6.4	22
4	8.0	14	19	14	18	18	18	4.2	5.5	6.9	5.2	25
5	8.0	14	16	15	17	17	17	4.2	5.5	6.4	4.7	20
6	8.0	13	15	13	16	20	18	4.2	5.0	5.2	5.2	20
7	8.0	12	15	15	16	19	17	4.2	5.0	5.2	9.8	81
8	8.0	11	13	19	16	19	16	4.2	5.0	8.0	64	51
9	9.8	11	12	21	16	19	16	4.2	4.5	5.2	26	39
10	9.8	11	13	20	15	20	16	5.8	4.5	4.7	59	47
11	9.8	11	14	16	14	20	15	6.4	4.5	4.2	60	39
12	9.8	11	14	15	16	21	13	5.2	4.0	5.8	45	41
13	9.8	12	14	15	19	26	13	4.7	4.0	6.4	34	35
14	9.8	16	15	18	18	26	12	5.2	4.0	5.2	22	30
15	12	14	15	20	18	27	12	5.8	3.5	6.9	20	28
16	12	13	15	20	19	32	12	5.8	3.5	6.4	122	28
17	12	15	14	18	20	32	9.8	5.2	3.5	6.4	88	29
18	12	16	15	16	19	30	9.8	5.2	3.0	5.8	44	26
19	12	15	14	14	19	40	11	5.2	3.0	5.2	78	24
20	12	14	13	14	19	43	9.8	5.2	3.0	4.7	40	22
21	12	14	15	17	21	28	9.8	5.2	1.8	4.7	35	21
22	13	17	15	17	14	26	9.8	3.6	2.2	4.2	24	20
23	12	18	15	17	18	28	9.8	4.2	3.6	4.7	24	19
24	12	17	14	18	22	28	9.8	4.2	3.0	4.2	18	20
25	12	16	16	16	24	25	7.4	4.2	11	5.2	16	19
26	14	19	16	16	21	21	6.4	4.2	6.4	13	36	16
27	15	18	17	15	18	19	6.9	4.2	4.2	11	21	15
28	15	16	17	15	18	15	6.4	3.6	4.2	7.4	68	14
29	14	16	18	16	---	28	5.8	4.7	5.8	7.4	34	13
30	15	16	14	16	---	35	5.8	4.7	11	6.4	22	13
31	15	---	15	16	---	38	---	5.2	---	6.4	32	---
TOTAL	343.2	432	470	506	504	779	395.3	150.3	139.9	200.8	1076.1	866
MEAN	11.1	14.4	15.2	16.3	18.0	25.1	13.2	4.85	4.66	6.48	34.7	28.9
MAX	15	19	19	21	24	43	34	6.4	11	13	122	81
MIN	7.4	11	12	13	14	15	5.8	3.6	1.8	4.2	4.7	13
AC-FT	681	857	932	1000	1000	1550	784	298	277	398	2130	1720

CAL YR 1980 TOTAL 13781.2 MEAN 37.7 MAX 290 MIN 5.2 AC-FT 27340
WTR YR 1981 TOTAL 5862.6 MEAN 16.1 MAX 122 MIN 1.8 AC-FT 11630

07096000 ARKANSAS RIVER AT CANON CITY, CO

LOCATION.--Lat 38°26'02", long 105°15'24", in SE¼SE¼ sec.31, T.18 S., R.70 W., Fremont County, Hydrologic Unit 11020002, on right bank 800 ft (240 m) upstream from Sand Creek, 0.7 mi (1.1 km) downstream from Grape Creek, and 0.7 mi (1.1 km) upstream from First Street Bridge in Canon City.

DRAINAGE AREA.--3,117 mi² (8,073 km²).

PERIOD OF RECORD.--January 1888 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "near Canyon" 1900-1906.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1311: 1897-98.

GAGE.--Water-stage recorder. Datum of gage is 5,342.13 ft (1,628.281 m) National Geodetic Vertical Datum of 1929. See WSP 1711 or 1731 for history of changes prior to Oct. 1, 1957. Oct. 1, 1957, to Nov. 15, 1962, water-stage recorder at present site at datum 1.49 ft (0.454 m) higher.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation of about 56,000 acres (227 km²), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--93 years, 715 ft³/s (20.25 m³/s), 518,000 acre-ft/yr (639 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft³/s (538 m³/s) Aug. 2, 1921, gage height, 10.7 ft (3.26 m), site and datum then in use, from floodmark, from rating curve extended above 5,000 ft³/s (140 m³/s); minimum daily, 69 ft³/s (1.95 m³/s) May 13, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,680 ft³/s (47.6 m³/s) at 2230 June 7, gage height, 6.98 ft (2.128 m); minimum daily, 167 ft³/s (4.73 m³/s) Apr. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	345	393	512	418	307	280	218	340	905	484	623	679
2	363	431	470	418	280	285	214	444	869	484	578	655
3	363	405	438	418	300	296	221	540	932	695	555	608
4	375	412	451	418	320	296	214	727	1020	563	608	323
5	340	412	438	418	330	275	208	639	950	512	759	585
6	334	405	438	418	330	285	194	519	1040	484	735	533
7	329	381	438	405	320	307	195	431	1430	464	784	519
8	323	381	438	405	300	301	188	363	1540	444	818	363
9	318	375	405	369	320	290	183	290	1570	405	860	334
10	318	357	399	357	310	285	182	230	1540	425	905	323
11	329	363	418	357	240	296	185	211	1480	470	878	351
12	329	418	431	340	290	296	190	206	1400	548	639	470
13	334	399	464	340	320	290	197	201	1230	593	451	457
14	334	390	431	329	345	285	195	187	1020	533	329	457
15	363	400	431	301	318	285	190	192	896	438	369	425
16	387	380	438	285	318	285	188	208	703	418	484	464
17	375	370	438	290	307	323	183	188	540	418	470	464
18	425	400	431	296	307	323	176	182	505	477	418	438
19	438	457	444	290	301	296	176	178	519	600	412	399
20	431	444	438	290	296	296	175	176	711	540	340	301
21	438	464	431	318	307	296	167	176	1100	519	334	307
22	444	470	431	318	270	280	182	176	986	631	296	301
23	438	484	438	323	260	280	199	190	703	775	270	285
24	438	512	405	329	275	270	192	218	759	977	250	270
25	444	505	399	323	280	245	175	224	735	977	260	275
26	438	498	412	312	290	234	170	224	767	977	270	255
27	451	484	412	312	280	234	178	265	540	1110	296	237
28	540	477	405	329	270	227	204	357	451	1000	307	234
29	477	505	418	334	---	227	260	519	491	941	275	230
30	431	505	438	334	---	224	301	809	505	818	240	245
31	418	---	418	323	---	221	---	852	---	679	318	---
TOTAL	12110	12877	13398	10717	8391	8613	5900	10462	27837	19399	15131	11787
MEAN	391	429	432	346	300	278	197	337	928	626	488	393
MAX	540	512	512	418	345	323	301	852	1570	1110	905	679
MIN	318	357	399	285	240	221	167	176	451	405	240	230
AC-FT	24020	25540	26570	21260	16640	17080	11700	20750	55210	38480	30010	23380

CAL YR 1980 TOTAL 360615 MEAN 985 MAX 6830 MIN 301 AC-FT 715300
WTR YR 1981 TOTAL 156622 MEAN 429 MAX 1570 MIN 167 AC-FT 310700

07096500 FOURMILE CREEK NEAR CANON CITY, CO

LOCATION.--Lat 38°26'11", long 105°11'27", in NE¼SW¼ sec.35, T.18 S., R.70 W., Fremont County, Hydrologic Unit 11020002, on right bank 1,000 ft (300 m) downstream from railroad bridge, 0.6 mi (1.0 km) upstream from mouth, and 2.8 mi (4.5 km) east of courthouse in Canon City.

DRAINAGE AREA.--434 mi^2 (1,124 km^2).

PERIOD OF RECORD.--April to October 1910 (gage heights and discharge measurements only), October 1948 to September 1953, November 1970 to current year. Published as "Oil or Fourmile Creek" in 1910 and as Oil Creek near Canon City, 1948-53.

GAGE.--Water-stage recorder. Concrete control since Oct. 1, 1974. Altitude of gage is 5,254 ft (1,601 m), from topographic map. April to October 1910, nonrecording gage at site 1,200 ft (370 m) upstream at different datum. October 1948 to September 1953, water-stage recorder at site 0.6 mi (1.0 km) upstream at different datum.

REMARKS.--Records good except those Dec. 10-Jan. 19, which are poor. Diversions for irrigation of about 500 acres (2.02 km^2) above station. Water imported to basin from Arkansas River for irrigation of a few small orchards above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--15 years (water years 1949-53, 1972-81), 19.3 ft^3/s (0.547 m^3/s), 13,980 acre-ft/yr (17.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,260 ft^3/s (121 m^3/s) July 11, 1951, gage height, 9.25 ft (2.819 m), from floodmarks, site and datum then in use, from rating curve extended above 96 ft^3/s (2.7 m^3/s), on basis of slope-area measurement of peak flow; no flow Sept. 3-10, 1950, Sept. 23, 1951.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft^3/s (8.5 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Aug. 3	0400	486	13.8	4.08	1.244	Aug. 18	0015	*658	18.6	4.31	1.314
Aug. 12	2400	530	15.0	4.15	1.265	Aug. 22	2045	570	16.1	4.21	1.283

Minimum daily discharge, 2.9 ft^3/s (0.08 m^3/s) Mar. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	37	9.1	8.4	5.7	4.3	30	19	19	13	10	33
2	19	29	9.6	8.4	5.7	4.3	28	18	17	14	8.6	30
3	19	25	9.6	8.4	5.7	4.3	22	19	17	18	68	30
4	18	23	9.6	8.4	5.7	4.6	12	21	17	21	13	30
5	19	21	9.6	8.4	5.5	4.6	8.1	21	16	22	8.2	28
6	20	16	9.6	8.2	5.5	4.3	6.4	20	16	19	7.2	30
7	19	17	9.6	8.2	5.2	4.3	5.9	19	15	16	8.6	36
8	19	16	9.6	8.2	4.9	4.6	10	18	15	17	7.2	35
9	18	15	9.6	8.2	5.2	4.6	30	17	15	20	7.2	33
10	18	13	9.4	8.2	4.9	4.3	24	17	18	26	10	38
11	17	12	9.4	8.0	4.9	4.3	10	18	18	35	13	38
12	18	12	9.4	8.0	5.2	4.3	5.1	15	16	40	34	38
13	18	13	9.2	8.0	5.2	4.3	4.3	15	16	28	33	38
14	19	13	9.2	7.8	5.2	4.3	4.3	15	16	21	14	36
15	19	14	9.2	7.8	5.2	4.3	21	15	16	19	13	36
16	33	13	9.2	7.6	4.9	4.3	47	17	12	26	15	34
17	60	12	9.0	7.6	4.6	7.2	47	17	11	16	23	39
18	69	12	9.0	7.6	4.6	12	48	18	12	35	47	36
19	65	12	9.0	7.6	4.6	16	44	18	13	22	18	36
20	63	12	9.0	7.5	4.6	18	32	20	12	18	29	37
21	65	14	9.0	6.8	4.6	10	23	19	12	14	26	35
22	63	13	9.0	6.8	4.3	7.4	18	18	12	12	42	34
23	64	12	8.8	6.5	4.3	7.3	19	20	12	14	32	36
24	69	11	8.8	6.3	4.3	5.7	19	22	9.4	15	26	39
25	67	10	8.8	6.3	4.3	3.4	16	18	10	14	20	39
26	64	9.6	8.8	6.3	4.3	2.9	17	17	9.1	15	24	36
27	62	9.6	8.8	6.1	4.3	19	16	17	9.4	18	40	32
28	58	9.6	8.6	6.0	4.3	31	14	16	11	19	29	30
29	53	9.1	8.6	5.7	---	32	17	15	13	18	28	30
30	52	8.6	8.6	5.7	---	33	18	16	11	13	26	27
31	49	---	8.6	5.7	---	35	---	18	---	12	27	---
TOTAL	1234	443.5	283.3	228.7	137.7	309.9	616.1	553	415.9	610	707.0	1029
MEAN	39.8	14.8	9.14	7.38	4.92	10.0	20.5	17.8	13.9	19.7	22.8	34.3
MAX	69	37	9.6	8.4	5.7	35	48	22	19	40	68	39
MIN	17	8.6	8.6	5.7	4.3	2.9	4.3	15	9.1	12	7.2	27
AC-FT	2450	880	562	454	273	615	1220	1100	825	1210	1400	2040

CAL YR 1980 TOTAL 19544.1 MEAN 53.4 MAX 540 MIN 7.1 AC-FT 38770
WTR YR 1981 TOTAL 6568.1 MEAN 18.0 MAX 69 MIN 2.9 AC-FT 13030

07097000 ARKANSAS RIVER AT PORTLAND, CO

LOCATION.--Lat 38°23'18", long 105°00'56", in NE¼NE¼ sec.20, T.19 S., R.68 W., Fremont County, Hydrologic Unit 11020002, on right bank at bridge on State Highway 120 at Portland and 1 mi (1.6 km) downstream from Hardscrabble Creek.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--4,024 mi² (10,422 km²).

PERIOD OF RECORD.--May 1939 to September 1952, October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5,021.59 ft (1,530.581 m), National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1974, at site 400 ft (120 m) downstream at datum 0.03 ft (0.009 m) lower.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions above station for irrigation of about 60,000 acres (243 km²) and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--20 years (water years 1940-52, 1975-81), 718 ft³/s (20.33 m³/s), 520,200 acre-ft/yr (641 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,100 ft³/s (598 m³/s) June 5, 1949, gage height, 12.12 ft (3.712 m), from rating curve extended above 5,300 ft³/s (150 m³/s); minimum daily, 71 ft³/s (2.01 m³/s) Apr. 2, 1945.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,840 ft³/s (109 m³/s) at 1900 Aug. 15, gage height, 6.12 ft (1.865 m); minimum daily, 94 ft³/s (2.66 m³/s) Apr. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	368	480	429	384	276	228	185	279	860	480	614	685
2	384	505	424	384	237	240	170	336	777	470	555	626
3	388	490	447	380	250	240	170	400	834	681	609	664
4	396	485	447	380	269	243	168	540	932	592	535	356
5	376	490	442	380	269	228	149	505	880	525	705	582
6	360	475	434	380	269	225	130	408	925	485	681	535
7	356	442	434	368	263	253	129	336	1290	456	789	592
8	360	420	434	368	250	243	125	293	1550	442	753	456
9	356	424	408	352	269	237	118	231	1560	376	828	505
10	348	420	396	333	256	225	110	170	1570	404	906	500
11	360	400	396	333	185	228	109	153	1550	460	918	535
12	368	456	404	322	240	231	116	145	1430	525	741	642
13	368	434	438	314	272	228	141	147	1250	587	831	587
14	368	456	416	314	286	222	141	135	1030	515	485	520
15	396	460	408	293	276	219	137	130	892	416	779	485
16	442	424	416	286	266	225	145	185	729	396	664	540
17	465	404	412	283	259	237	130	183	505	468	565	565
18	505	404	408	283	259	256	124	155	470	533	662	535
19	525	460	424	293	256	237	124	145	485	598	456	460
20	515	456	424	279	253	250	122	141	598	535	404	364
21	530	460	420	279	296	256	96	132	1070	495	396	364
22	550	438	416	296	266	240	97	125	1000	545	376	333
23	550	447	416	303	234	234	143	145	648	711	364	318
24	550	475	408	296	231	228	141	207	670	880	300	303
25	545	447	400	303	228	204	106	222	670	977	289	310
26	545	438	416	293	234	188	94	207	765	1000	310	293
27	545	412	416	272	228	191	95	237	550	1130	352	272
28	620	416	408	286	219	196	121	310	424	990	340	256
29	592	429	412	296	---	194	191	452	460	899	314	247
30	545	434	408	303	---	183	228	699	495	821	269	250
31	525	---	384	289	---	188	---	789	---	658	302	---
TOTAL	14101	13381	12945	9925	7096	6997	4055	8542	26869	19050	17092	13680
MEAN	455	446	418	320	253	226	135	276	896	615	551	456
MAX	620	505	447	384	296	256	228	789	1570	1130	918	685
MIN	348	400	384	272	185	183	94	125	424	376	269	247
AC-FT	27970	26540	25680	19690	14070	13880	8040	16940	53290	37790	33900	27130

CAL YR 1980 TOTAL 386315 MEAN 1056 MAX 6990 MIN 250 AC-FT 766300
WTR YR 1981 TOTAL 153733 MEAN 421 MAX 1570 MIN 94 AC-FT 304900

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1979 to current year.
WATER TEMPERATURE: October 1979 to current year.

REMARKS.--Specific conductance and water temperature records are once daily measurements obtained by a local observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,380 micromhos Sept. 30, 1981; minimum daily, 174 micromhos June 24, 1980.
WATER TEMPERATURES: Maximum daily, 21.0°C Aug. 7, 1981; minimum daily, 0.0°C many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,380 micromhos Sept. 30; minimum daily, 273 micromhos June 25.
WATER TEMPERATURES: Maximum daily, 21.0°C Aug. 7; minimum daily, 0.0°C many days during November to February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN DIS-SOLVED (MG/L AS N)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV											
28...	1300	392	467	488	8.3	4.5	1.2	13.1	--	K18	72
MAR											
05...	1130	240	--	577	7.8	7.5	3.0	11.0	1.1	K14	92
APR											
14...	1200	170	--	730	7.9	13.0	2.6	12.4	1.2	56	54
MAY											
20...	1500	139	780	--	8.2	17.0	2.7	10.8	.99	33	47
JUL											
30...	1500	834	300	--	7.8	23.0	3.4	9.6	.71	23	48
SEP											
30...	1315	267	560	591	8.0	15.5	3.4	11.6	.76	--	>200

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
NOV											
28...	190	49	16	24	.8	2.6	130	180	11	.6	12
MAR											
05...	230	60	20	35	1.0	2.4	140	150	12	.4	11
APR											
14...	280	72	25	48	1.2	3.6	140	220	12	.7	11
MAY											
20...	270	70	24	43	1.1	3.3	140	220	12	.6	9.6
JUL											
30...	110	32	7.8	12	.5	3.5	71	56	4.7	.3	8.8
SEP											
30...	240	65	18	28	.8	2.8	140	150	12	.8	12

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
NOV											
28...	303	295	.41	321	.61	.45	--	--	--	--	--
MAR											
05...	365	378	.50	237	.53	.54	.110	.130	.67	.42	.78
APR											
14...	489	848	.67	224	.01	.39	--	.130	--	.66	.53
MAY											
20...	484	468	.66	182	.31	.34	.080	.100	.91	.55	.99
JUL											
30...	173	169	.24	390	.26	.26	.260	.220	.84	.23	1.10
SEP											
30...	392	374	.53	283	.27	.26	.110	.130	.46	.37	.57

K BASED ON NON-IDEAL COLONY COUNT.

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)
NOV 28...	--	--	.060	.030	--	--	2.9	--	--	--
MAR 05...	.55	1.3	.100	.070	.050	0	--	7.4	.2	--
APR 14...	.79	.84	.140	.130	--	--	--	5.5	.9	21000
MAY 20...	.65	1.3	.060	.070	--	--	5.3	--	--	6200
JUL 30...	.45	1.4	.120	.050	--	0	--	6.1	.4	2600
SEP 30...	.50	.84	.070	.060	--	0	--	3.3	.3	17000

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)
JAN 20...	1515	--	--	--	--	--	--	--	--	--	--
MAR 05...	1130	1	3	100	70	0	<1	0	0	2	<3
APR 14...	1200	0	1	100	100	0	<1	20	10	0	<3
JUL 30...	1500	1	0	100	60	1	<1	10	0	3	<3
SEP 30...	1315	2	1	100	67	0	<1	20	10	0	<3

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
JAN 20...	--	--	--	--	--	--	--	--	--	--
MAR 05...	11	3	300	20	13	0	90	70	.2	.0
APR 14...	7	3	280	120	0	0	120	90	.1	.0
JUL 30...	18	16	1800	30	54	2	110	12	.2	.1
SEP 30...	9	3	1000	200	9	3	100	63	.0	.0

DATE	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 20...	6	4	--	--	--	--	--	2.0	--	--
MAR 05...	--	--	1	3	4	1	0	--	90	30
APR 14...	--	--	6	1	5	5	0	--	40	40
JUL 30...	--	--	5	2	1	0	0	--	80	29
SEP 30...	--	--	1	4	3	3	0	--	40	41

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)
NOV							
28...	1300	9.5	.5	14	.7	5.0	1.5
JAN							
20...	1515	11	.3	16	<.4	4.1	1.0
MAR							
05...	1130	15	.3	22	<.4	8.4	1.2

DATE	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)	URANIUM NATURAL TOTAL (UG/L AS U)	URANIUM DIS-SOLVED, EXTRAC-TION (UG/L)
NOV							
28...	4.8	1.5	--	.13	8.2	--	--
JAN							
20...	4.0	1.0	.1	.06	8.7	9.4	8.0
MAR							
05...	8.0	1.1	--	--	--	--	--

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV					
07...	1315	452	47	57	--
28...	1300	392	22	23	--
DEC					
22...	1400	420	14	16	--
JAN					
20...	1515	286	10	7.7	--
FEB					
13...	1300	243	56	37	--
26...	1655	234	24	15	--
MAR					
05...	1130	240	23	15	--
19...	1120	247	15	10	--
APR					
14...	1200	170	30	14	--
23...	1400	--	14	--	--
MAY					
08...	1300	293	91	72	40
20...	1500	139	5280	1980	2
JUN					
08...	1210	1550	695	2910	34
18...	1109	470	44	56	28
JUL					
06...	1435	485	104	136	62
15...	1042	416	99	111	76
30...	1500	834	141	318	50
AUG					
26...	1430	279	33	25	64
SEP					
30...	1315	267	51	37	63

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	459	429	446	485	656	656	667	628	303	349	323	384
2	440	428	446	492	657	674	614	642	298	403	311	380
3	484	391	449	480	926	627	659	314	298	394	309	376
4	493	391	446	486	924	633	---	328	300	400	309	379
5	492	402	453	348	925	642	---	333	304	403	295	778
6	484	657	451	378	933	635	---	335	300	404	295	782
7	504	638	452	406	920	646	814	334	300	348	310	778
8	503	616	451	360	923	634	796	439	299	344	305	777
9	530	667	452	362	921	644	811	---	299	355	286	903
10	525	661	460	368	760	827	776	---	---	414	284	904
11	534	490	457	361	751	820	808	---	---	412	312	904
12	534	483	---	364	750	836	791	450	---	408	316	906
13	490	479	---	883	757	832	810	451	---	434	474	909
14	515	479	---	891	764	829	---	776	---	434	475	910
15	513	480	---	890	759	828	---	774	294	437	474	905
16	511	477	---	719	752	832	767	757	293	443	450	902
17	512	480	574	750	665	598	768	755	295	444	426	1190
18	511	464	542	719	668	593	782	757	338	633	446	1190
19	440	463	534	715	664	550	771	753	339	652	465	1190
20	451	462	530	473	666	586	---	743	333	641	465	1200
21	448	462	532	462	662	572	798	738	339	338	470	1200
22	445	462	532	461	665	583	---	733	339	337	529	---
23	436	462	529	618	665	579	---	733	336	335	484	---
24	435	463	532	619	688	627	---	731	335	341	528	---
25	440	472	463	619	687	626	---	698	273	343	528	---
26	435	467	372	617	687	633	---	694	278	307	533	---
27	427	467	477	618	686	633	---	697	408	305	---	---
28	429	465	477	657	626	611	654	551	409	323	---	---
29	432	467	477	659	---	615	642	545	400	319	---	---
30	430	445	473	654	---	625	637	366	402	323	---	1380
31	429	---	476	653	---	659	---	365	---	330	478	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	5.0	3.0	3.0	1.5	5.0	7.5	15.5	15.0	19.5	20.0	17.5
2	14.0	5.0	4.5	2.5	1.5	5.0	7.0	16.0	15.5	20.0	19.5	17.5
3	14.0	5.0	5.0	3.0	1.5	4.0	7.0	15.0	15.5	20.5	19.5	17.5
4	13.5	5.0	4.5	3.0	1.0	4.0	---	14.5	16.0	20.5	20.0	17.0
5	13.5	5.0	6.0	---	.5	4.0	---	14.5	16.5	19.5	19.5	17.5
6	13.0	8.0	7.0	1.5	.0	4.5	---	15.0	16.0	19.5	20.0	17.5
7	12.5	10.0	6.0	1.5	.0	4.5	11.0	16.0	16.5	19.5	21.0	18.0
8	12.0	12.0	5.0	1.0	.0	4.0	11.0	15.5	16.5	20.0	20.0	19.0
9	12.0	12.0	5.0	1.0	.0	4.0	11.5	---	16.5	20.0	19.0	19.0
10	12.0	12.0	5.0	.5	.0	5.0	12.0	---	---	20.0	19.0	19.5
11	12.0	12.0	5.0	.5	.0	5.5	12.0	---	---	20.5	17.0	19.0
12	12.0	12.0	4.0	.5	2.0	5.5	11.5	12.5	---	20.0	17.5	18.0
13	12.0	10.0	3.0	.5	4.0	5.0	11.5	12.5	---	20.0	18.0	17.5
14	12.0	8.0	2.0	.5	4.0	5.0	12.5	13.5	---	19.5	19.0	17.0
15	12.0	6.0	2.0	.0	4.0	4.5	13.0	14.0	15.0	19.5	19.5	16.5
16	12.0	4.0	3.0	.0	4.0	4.5	13.5	13.5	15.0	20.0	18.0	16.0
17	12.0	4.0	3.0	.5	4.5	6.0	14.0	13.0	15.5	20.5	18.0	16.0
18	12.0	4.0	4.0	1.0	4.5	7.5	14.5	12.0	16.0	19.0	17.5	16.0
19	11.0	4.0	3.0	1.0	5.0	8.5	14.0	19.0	16.5	18.5	18.5	15.5
20	9.5	3.5	2.5	1.5	5.0	8.0	13.0	12.0	17.0	19.0	18.5	15.0
21	8.0	3.0	2.0	2.0	5.0	8.0	13.5	12.0	17.0	19.0	18.5	15.0
22	7.0	2.5	2.5	2.0	4.5	8.5	12.5	13.0	17.5	18.5	18.5	---
23	6.0	1.0	3.0	2.5	4.0	8.5	12.0	13.5	18.0	18.5	18.0	---
24	5.5	1.0	2.5	3.5	4.5	8.5	12.0	13.5	18.0	18.0	18.0	---
25	5.0	1.0	2.5	4.0	5.5	9.0	12.5	14.0	18.5	17.5	18.5	---
26	5.0	1.0	1.5	4.0	5.5	10.0	13.0	15.0	19.0	18.0	18.5	---
27	5.0	.0	3.0	3.5	5.0	11.5	13.0	16.0	19.0	18.0	18.0	---
28	5.0	2.0	3.0	3.5	4.5	11.5	14.0	17.0	19.5	18.5	17.5	---
29	5.0	1.5	3.0	3.5	---	10.0	15.0	17.0	19.5	19.0	17.5	---
30	4.5	2.0	2.5	3.0	---	9.0	15.5	15.5	19.5	19.5	18.0	15.5
31	4.5	---	3.0	2.0	---	8.0	---	15.0	---	19.5	18.0	---

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE	APR 14,81	MAY 20,81	JUL 30,81	SEP 30,81
TIME	1200	1500	1500	1315
TOTAL CELLS/ML	21000	6200	2600	17000
DIVERSITY: DIVISION	1.0	0.9	1.4	1.4
.CLASS	1.0	0.9	1.4	1.4
..ORDER	2.1	2.6	2.6	2.6
...FAMILY	2.2	3.0	2.9	2.8
....GENUS	2.3	3.2	3.0	2.8

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)								
.BACILLARIOPHYCEAE								
..ACHNANTHALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	320	5	140	5	92	1
....RHOICOSPHENIA	--	-	--	-	28	1	92	1
..BACILLARIALES								
...NITZSCHIACEAE								
....NITZSCHIA	4700#	22	1900#	31	240	9	2600#	15
..EUPODISCALES								
...COSCINODISCACEAE								
....CYCLOTELLA	110	1	280	4	56	2	92	1
....MELOSIRA	--	-	460	7	84	3	--	-
..FRAGILARIALES								
...FRAGILARIACEAE								
....ASTERIONELLA	110	1	--	-	--	-	--	-
....DIATOMA	--	-	280	4	--	-	92	1
....FRAGILARIA	--	-	--	-	42	2	--	-
....SYNEDRA	2300	11	140	2	84	3	180	1
..NAVICULALES								
...CYMBELLACEAE								
....CYMBELLA	3500#	17	510	8	42	2	92	1
...GOMPHONEMACEAE								
....GOMPHONEMA	110	1	280	4	140	5	550	3
...NAVICULACEAE								
....CALONEIS	110	1	--	-	--	-	--	-
....NAVICULA	440	2	780	13	170	7	2900#	17
..SURIRELLALES								
...SURIRELLACEAE								
....SURIRELLA	550	3	--	-	42	2	--	-
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	46	1	56	2	2000	12
....CHODATELLA	--	-	--	-	--	-	92	1
...SCENEDESMACEAE								
....SCENEDESMUS	--	-	180	3	110	4	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	110	1	92	1	42	2	92	1
..ZYGNEMATALES								
...DESMIDIACEAE								
....COSMARIUM	--	-	--	-	28	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	56	2	--	-
....ANACYSTIS	--	-	180	3	--	-	1100	7
..NOSTOCALES								
...NOSTOCACEAE								
....APHANIZOMENON	--	-	--	-	--	-	1700	10
..OSCILLATORIALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	8600#	42	690	11	1200#	46	5200#	31
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....PHACUS	--	-	--	-	14	1	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

07099100 BEAVER CREEK NEAR PORTLAND, CO

LOCATION.--Lat 38°22'27", long 104°57'49", in NW¼NE¼ sec.26, T.19 S., R.68 W., Fremont County, Hydrologic Unit 11020002, on right bank 80 ft (24 m) downstream from bridge on State Highway 120, 1,500 ft (460 m) upstream from mouth, and 3.4 mi (5.5 km) southeast of Portland.

DRAINAGE AREA.--214 mi² (554 km²).

PERIOD OF RECORD.--November 1970 to September 1981 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 4,993 ft (1,522 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Storage and diversions above station for municipal supply of city of Colorado Springs. Water exported above station for irrigation of a few hundred acres in adjacent basin. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years (water years 1972-81), 8.73 ft³/s (0.247 m³/s), 6,320 acre-ft/yr (7.79 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,800 ft³/s (136 m³/s) Sept. 9, 1973, gage height, 7.56 ft (2.304 m) in gage well, 8.79 ft (2.679 m), from floodmarks, from rating curve extended above 17 ft³/s (0.5 m³/s), on basis of slope-area measurement at gage height 4.36 ft (1.329 m); no flow for several days in 1971, 1974, 1975, and 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,800 ft³/s (79.3 m³/s) at 1915 July 17, gage height, 8.67 ft (2.643 m), from floodmarks, from rating curve extended above 800 ft³/s (22.7 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 0.24 ft³/s (0.007 m³/s) Feb. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	.60	.63	.50	.30	.35	4.8	.47	1.0	.60	9.2	40
2	.80	.60	.63	.50	.35	.35	5.1	.47	.90	.50	30	35
3	.80	.60	.63	.50	.35	.35	5.7	.61	.90	23	21	29
4	.70	.60	.63	.50	.24	.44	6.2	.52	.90	9.2	14	29
5	.70	.54	.63	.50	.35	.39	2.8	.47	.80	.60	2.3	28
6	.60	.54	.63	.50	.30	.36	1.5	.47	.70	.35	.77	23
7	.60	.54	.63	.40	.30	.46	.92	.47	.50	.35	5.5	25
8	.60	.54	.63	.40	.35	.38	.69	.47	.40	.35	1.5	24
9	.60	.54	.63	.35	.30	.39	.52	.47	.35	.35	174	21
10	.60	.54	.63	.35	.25	.35	.45	.47	.35	.35	47	22
11	.50	.54	.63	.35	.25	.35	.42	.47	.40	.35	20	23
12	.50	.54	.63	.30	.30	.35	.40	.47	.35	.40	17	26
13	.50	.54	.63	.30	.40	.35	.40	.50	.35	45	22	24
14	.60	.54	.63	.30	.38	.35	.40	.50	.35	30	7.5	22
15	.50	.54	.63	.30	.35	.35	.40	.50	.40	.60	7.3	23
16	.50	.54	.63	.30	.35	.35	.40	.50	.35	85	116	33
17	.50	.54	.62	.30	.35	.35	.40	.50	.40	300	62	34
18	.44	.54	.54	.30	.35	.39	.40	.50	.35	107	137	33
19	.50	.54	.54	.30	.35	.40	.40	.50	.40	65	62	31
20	.60	.54	.54	.30	.35	.38	.40	.50	.35	42	79	30
21	.68	.54	.54	.30	.35	.35	.40	.50	.35	31	82	29
22	.60	.54	.55	.30	.35	.40	.40	.50	.35	60	79	28
23	.60	.54	.50	.30	.35	.40	.40	.50	.35	48	59	26
24	.67	.54	.50	.30	.35	.40	.40	.50	.90	19	42	25
25	.60	.54	.50	.30	.35	.40	.47	.50	.60	1.0	37	25
26	.70	.59	.50	.30	.35	.40	.47	.50	.35	1.0	143	24
27	.70	.63	.50	.30	.35	.40	.47	.50	.35	25	52	23
28	.70	.63	.50	.30	.35	.51	.47	.50	.35	20	45	22
29	.60	.63	.50	.30	---	.71	.47	15	.35	9.2	40	22
30	.60	.63	.50	.30	---	.65	.47	1.5	2.8	8.4	33	22
31	.60	---	.50	.30	---	.55	---	1.2	---	10	30	---
TOTAL	18.89	16.85	17.91	10.85	9.32	12.61	37.12	31.53	17.25	943.60	1477.07	801
MEAN	.61	.56	.58	.35	.33	.41	1.24	1.02	.58	30.4	47.6	26.7
MAX	.80	.63	.63	.50	.40	.71	6.2	15	2.8	300	174	40
MIN	.44	.54	.50	.30	.24	.35	.40	.47	.35	.35	.77	21
AC-FT	37	33	36	22	18	25	74	63	34	1870	2930	1590

CAL YR 1980 TOTAL 9331.15 MEAN 25.5 MAX 460 MIN .04 AC-FT 18510
WTR YR 1981 TOTAL 3394.00 MEAN 9.30 MAX 300 MIN .24 AC-FT 6730

07099215 TURKEY CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°36'42", long 104°53'39", in NW¼SE¼ sec.33, T.16 S., R.67 W., El Paso County, Hydrologic Unit 1120002, on Ft. Carson Military Reservation, on right bank 100 ft (30 m) downstream from State Highway 115 bridge, 0.7 m (1.1 km) downstream from Turkey Canyon, 0.8 mi (1.3 km) upstream from Turkey Creek Ranch, and 9.4 mi (15.1 km) southwest of Fountain.

DRAINAGE AREA.--13.0 mi² (33.7 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

REVISED RECORDS.--WDR CO-80-1: 1978(M), 1979(M).

GAGE.--Water-stage recorder. Altitude of gage is 6,420 ft (1,957 m), from topographic map.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 519 ft³/s (14.7 m³/s) Aug. 11, 1980, gage height, 3.97 ft (1.210 m) from rating curve extended above 140 ft³/s (3.96 m³/s); no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15 ft³/s (0.42 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 30	1700	67	1.90	3.00	0.914	Aug. 16	1415	23	0.65	2.67	0.814
Aug. 2	1815	46	1.30	2.89	0.881	Aug. 21	2000	*128	3.62	3.23	0.984

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	2.2	.06	.19	3.6
2	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.24	1.0	2.9
3	.00	.00	.00	.00	.00	.00	.00	.00	7.2	1.1	1.0	2.6
4	.00	.00	.00	.00	.00	.00	.00	.00	9.1	.44	.32	2.6
5	.00	.00	.00	.00	.00	.00	.00	.00	7.9	.06	.06	2.3
6	.00	.00	.00	.00	.00	.00	.00	.00	6.5	.02	.03	2.0
7	.00	.00	.00	.00	.00	.00	.00	.00	5.0	.02	.19	2.0
8	.00	.00	.00	.00	.00	.00	.00	.00	3.6	.02	.19	1.9
9	.00	.00	.00	.00	.00	.00	.00	.00	2.1	.03	.19	1.8
10	.00	.00	.00	.00	.00	.00	.00	.00	1.8	.04	1.6	1.7
11	.00	.00	.00	.00	.00	.00	.00	.00	1.6	.04	2.0	1.8
12	.00	.00	.00	.00	.00	.00	.00	.00	1.2	.43	3.2	1.8
13	.00	.00	.00	.00	.00	.00	.00	.00	.82	.13	3.2	2.4
14	.00	.00	.00	.00	.00	.00	.00	.00	.55	.13	2.2	1.8
15	.00	.00	.00	.00	.00	.00	.00	.00	.56	.16	.81	1.5
16	.00	.00	.00	.00	.00	.00	.00	.00	.42	1.4	2.0	1.5
17	.00	.00	.00	.00	.00	.00	.00	.00	.49	8.6	3.7	1.5
18	.00	.00	.00	.00	.00	.00	.00	.00	.06	10	4.4	1.5
19	.00	.00	.00	.00	.00	.00	.00	.00	.03	9.9	4.4	1.2
20	.00	.00	.00	.00	.00	.00	.00	.00	.02	5.4	3.9	1.1
21	.00	.00	.00	.00	.00	.00	.00	.00	.02	1.4	8.7	.93
22	.00	.00	.00	.00	.00	.00	.00	.00	.03	.74	4.6	.76
23	.00	.00	.00	.00	.00	.00	.00	.00	.02	.61	5.7	.65
24	.00	.00	.00	.00	.00	.00	.00	.00	.03	.43	4.4	.55
25	.00	.00	.00	.00	.00	.00	.00	.00	.04	.39	3.8	.55
26	.00	.00	.00	.00	.00	.00	.00	.00	.04	.12	3.6	.60
27	.00	.00	.00	.00	.00	.00	.00	.00	.06	.84	3.6	.51
28	.00	.00	.00	.00	.00	.00	.00	.00	.04	.75	3.2	.36
29	.00	.00	.00	.00	---	.00	.00	.06	3.5	.20	2.6	.22
30	.00	.00	.00	.00	---	.00	.00	.70	.19	.03	2.1	.16
31	.00	---	.00	.00	---	.00	---	1.0	---	.02	2.0	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	1.76	56.22	43.75	78.88	44.79
MEAN	.000	.000	.000	.000	.000	.000	.000	.057	1.87	1.41	2.54	1.49
MAX	.00	.00	.00	.00	.00	.00	.00	1.0	9.1	10	8.7	3.6
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02	.03	.16
AC-FT	.00	.00	.00	.00	.00	.00	.00	3.5	112	87	156	89

CAL YR 1980 TOTAL 1374.43 MEAN 3.76 MAX 140 MIN .00 AC-FT 2730
WTR YR 1981 TOTAL 225.40 MEAN .62 MAX 10 MIN .00 AC-FT 447

07099220 LITTLE TURKEY CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°37'37", long 104°51'55", in SW¼NW¼ sec.26, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on Fort Carson Military Reservation, at right upstream end of bridge on military road No. 11, 1.0 mi (1.6 km) downstream from State Highway 115, 2.8 mi (4.5 km) upstream from mouth, and 9.1 mi (14.6 km) southwest of Fountain.

DRAINAGE AREA.--9.59 mi² (24.84 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,395 ft (1,949 m), from topographic map.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 147 ft³/s (4.16 m³/s) May 8, 1980; maximum gage height, 3.84 ft (1.170 m) May 7, 1980; no flow most of time each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10 ft³/s (0.28 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Aug. 2	1800	*72	2.04	2.36	0.719	Aug. 22	1745	14	0.40	1.38	0.421

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.5
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.9	2.4
3	.00	.00	.00	.00	.00	.00	.00	.00	.13	.03	.00	1.9
4	.00	.00	.00	.00	.00	.00	.00	.00	2.5	.00	.00	1.9
5	.00	.00	.00	.00	.00	.00	.00	.00	4.0	.00	.00	1.8
6	.00	.00	.00	.00	.00	.00	.00	.00	5.8	.00	.00	1.4
7	.00	.00	.00	.00	.00	.00	.00	.00	3.4	.00	.00	1.2
8	.00	.00	.00	.00	.00	.00	.00	.00	1.7	.00	.00	1.2
9	.00	.00	.00	.00	.00	.00	.00	.00	1.0	.00	.00	1.1
10	.00	.00	.00	.00	.00	.00	.00	.00	.73	.00	.00	.91
11	.00	.00	.00	.00	.00	.00	.00	.00	.35	.00	.76	.76
12	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	1.9	1.5
13	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	1.8	3.3
14	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	1.2	1.9
15	.00	.00	.00	.00	.00	.00	.00	.00	.07	.17	1.1	1.5
16	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00	1.8	1.5
17	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	1.8	1.5
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.0	1.2
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.4	1.1
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.2	.76
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.4	.76
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.3	.61
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.5	.61
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.6	.47
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.5	.61
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.9	.47
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07	3.5	.26
28	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00	2.9	.26
29	.00	.00	.00	.00	---	.00	.00	.01	.01	.00	2.7	.15
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	2.5	.07
31	.00	---	.00	.00	---	.00	---	.00	---	.00	1.9	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	.11	19.85	.27	51.56	36.60
MEAN	.000	.000	.000	.000	.000	.000	.000	.004	.66	.009	1.66	1.22
MAX	.00	.00	.00	.00	.00	.00	.00	.10	5.8	.17	5.9	3.5
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07
AC-FT	.00	.00	.00	.00	.00	.00	.00	.2	39	.5	102	73

CAL YR 1980 TOTAL 1261.92 MEAN 3.45 MAX 108 MIN .00 AC-FT 2500
WTR YR 1981 TOTAL 108.39 MEAN .30 MAX 5.9 MIN .00 AC-FT 215

07099220 LITTLE TURKEY CREEK NEAR FOUNTAIN, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May to July 1979, August to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
AUG										
24...	1220	2.4	250	203	7.6	19.5	6.2	--	--	K380
SEP										
03...	1515	1.8	193	201	7.9	17.3	7.0	.2	K34	620
29...	0830	.18	--	297	7.2	14.0	5.6	2.1	--	--

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
AUG										
24...	82	22	6.6	8.4	.4	2.2	83	<5.0	2.6	.5
SEP										
03...	81	22	6.3	7.8	.4	2.1	91	<5.0	1.6	.5
29...	120	37	7.8	9.6	.4	1.8	120	<5.0	1.8	.5

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
AUG									
24...	18	--	--	--	37	.33	.030	160	18
SEP									
03...	17	117	.16	.57	21	.04	.040	32	12
29...	18	73	.10	.04	7	.16	.030	14	38

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
SEP									
03...	220	0	100	0	380	0	10	4	220

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
SEP								
03...	12	20	.0	3	1	0	0	10

K BASED ON NON-IDEAL COLONY COUNT.

07099230 TURKEY CREEK ABOVE TELLER RESERVOIR NEAR STONE CITY, CO

LOCATION.--Lat 38°27'37", long 104°49'19", in NW¼NE¼ sec.30, T.18 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on Ft. Carson Military Reservation, on left bank, 0.5 mi (0.8 km) west of intersection of military roads 9 and 1, 1.6 mi (2.6 km) upstream from Teller Reservoir Dam and 2.4 mi (3.9 km) northeast of Stone City.

DRAINAGE AREA.--62.5 mi² (162 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,520 ft (1,682 m) from topographic map.

REMARKS.--Records fair. Diversions above gage for irrigation, amount unknown.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,240 ft³/s (91.8 m³/s) June 20, 1980, gage height, 11.27 ft (3.435 m), from rating curve extended above 100 ft³/s (2.83 m³/s) on the basis of slope-area measurements at gage heights 8.04 ft (2.450 m) and 11.27 ft (3.435 m); no flow many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20 ft³/s (0.57 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 29	0530	152	4.30	6.98	2.128	Aug. 2	2245	117	3.31	6.38	1.945
July 17	1845	*1,540	43.6	9.90	3.018	Aug. 5	2215	183	5.18	6.73	2.051

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	.80	.73	.87	.60	.65	.75	1.0	.81	.08	.27	.40
2	.50	.81	.70	.90	.60	.65	.75	.74	.75	.08	6.1	.40
3	.50	.81	.70	.94	.65	.65	.75	.68	.87	1.1	4.1	.40
4	.50	.84	.70	.94	.65	.75	.75	.73	.93	.35	2.4	.35
5	.50	.81	.70	.94	.65	.75	.75	.85	.87	.14	15	.35
6	.50	.81	.70	.94	.70	.75	.75	.87	.87	.14	13	.35
7	.50	.81	.70	1.0	.65	.75	.75	.85	.81	.16	1.2	.34
8	.50	.90	.75	.98	.70	.75	.75	.79	.81	.16	.47	.34
9	.50	.94	.75	.93	.70	.75	.70	.72	.75	.12	1.3	.31
10	.52	.94	.79	.93	.65	.75	.70	.61	.65	.10	2.2	.31
11	.51	.94	.81	.93	.60	.75	.70	.60	.60	.12	1.1	.31
12	.55	1.0	.80	.87	.68	.75	.66	.57	.51	.06	1.2	.31
13	.54	1.0	.75	.87	.71	.75	.64	.55	.43	.05	.93	.31
14	.51	.94	.77	.87	.70	.75	.60	.55	.39	.12	.70	.31
15	.51	.92	.75	.87	.70	.70	.60	.53	.35	.28	.51	.28
16	.53	.87	.75	.81	.70	.70	.60	.51	.31	.35	.47	.28
17	.48	.86	.75	.81	.70	.70	.60	.51	.22	71	.44	.28
18	.47	.91	.75	.81	.65	.70	.60	.49	.19	6.9	.33	.25
19	.47	.90	.75	.75	.65	.70	.55	.47	.19	1.1	.28	.25
20	.53	.86	.75	.75	.65	.70	.55	.47	.16	.81	.25	.25
21	.55	.92	.78	.75	.60	.70	.55	.43	.16	.81	.25	.25
22	.55	.94	.81	.75	.60	.70	.55	.43	.14	.65	.81	.25
23	.55	.90	.81	.75	.60	.70	.55	.43	.12	.55	1.6	.25
24	.60	.87	.81	.70	.60	.70	.55	.43	.12	.47	1.3	.31
25	.63	.82	.97	.65	.60	.70	.55	.43	.12	.31	.82	.28
26	.67	.86	.95	.70	.60	.70	.55	.41	.12	.22	.80	.22
27	.75	.78	.94	.65	.65	.70	.55	.37	.12	.14	1.6	.22
28	.75	.80	.94	.65	.65	.75	.55	.93	.12	.16	1.0	.22
29	.70	.75	.89	.60	---	.75	.55	14	.12	.17	.53	.22
30	.70	.75	.87	.60	---	.75	.51	1.2	.10	.19	.50	.22
31	.75	---	.87	.60	---	.75	---	.87	---	.23	.45	---
TOTAL	17.32	26.06	24.49	25.11	18.19	22.30	18.96	33.02	12.71	87.12	61.91	8.82
MEAN	.56	.87	.79	.81	.65	.72	.63	1.07	.42	2.81	2.00	.29
MAX	.75	1.0	.97	1.0	.71	.75	.75	14	.93	71	15	.40
MIN	.47	.75	.70	.60	.60	.65	.51	.37	.10	.05	.25	.22
AC-FT	34	52	49	50	36	44	38	65	25	173	123	17

CAL YR 1980 TOTAL 3180.41 MEAN 8.69 MAX 282 MIN .00 AC-FT 6310
WTR YR 1981 TOTAL 356.01 MEAN .98 MAX 71 MIN .05 AC-FT 706

07099230 TURKEY CREEK ABOVE TELLER RESERVOIR NEAR STONE CITY, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE LAB (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
MAY 29...	0415	--	--	--	--	.0	--	--	--	--	--	--
SEP 09...	1130	.33	1210	7.5	20.5	7.2	510	144	37	46	.9	3.6

DATE	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)
MAY 29...	--	--	--	--	--	--	--	--	36500	--	--
SEP 09...	210	370	26	.8	21	775	1.0	.69	0	.03	.010

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
MAY 29...	0415	200000	100	4600	20	250	4	190	460	200000
SEP 09...	1130	--	--	--	--	--	--	--	--	--

DATE	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
MAY 29...	--	420	11000	--	.8	0	490	38	9	1700
SEP 09...	51	--	--	110	--	--	--	--	--	--

07099233 TELLER RESERVOIR NEAR STONE CITY, CO

LOCATION.--Lat 38°26'33", long 104°49'31", in SE¼NW¼ sec.31, T.18 S., R.66 W., in Pueblo County, Hydrologic Unit 11020002, at left upstream end of dam on Turkey Creek on Fort Carson Military Reservation, 1.4 mi (2.3 km) upstream from Booth Gulch, and 2.0 mi (3.2 km) east of Stone City.

DRAINAGE AREA.--71.5 mi² (185 km²).

PERIOD OF RECORD.--September 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,453 ft (1,662.1 m), from topographic map.

REMARKS.--Records good except those October to February, which are fair. Reservoir is formed by an earthfill dam completed in about 1904. Maximum capacity of reservoir is 1,780 acre-ft (2.2 hm³) at an uncontrolled spillway elevation of about 88 ft (26.8 m), 1980 survey. There is no controlled outlet from reservoir, however, considerable leakage occurs. Reservoir is used for recreation and for amphibious training for Fort Carson.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,210 acre-ft (2.72 hm³) June 21, 1980, elevation, 90.15 ft (27.478 m), from capacity curve extended above 88 ft (26.8 m); no contents May 1 to June 5, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,090 acre-ft (1.34 hm³) at 0100 Oct. 1, elevation, 83.66 ft (25.500 m); minimum contents, 499 acre-ft (0.62 hm³) July 16, elevation, 78.24 ft (23.848 m).

Capacity table (elevation, in feet, and total contents, in acre-feet)

65.6	0
90.0	2,176

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1080	971	862	815	771	751	720	654	625	536	574	575
2	1080	966	861	815	771	750	712	652	622	532	600	572
3	1080	959	861	815	770	750	712	651	622	540	613	569
4	1070	950	861	811	770	749	711	651	622	540	609	564
5	1070	945	859	811	770	748	711	650	622	537	606	564
6	1070	939	852	810	770	747	710	644	617	534	617	561
7	1060	932	852	809	770	746	710	642	613	529	615	557
8	1060	928	850	807	770	745	709	642	610	526	610	554
9	1050	923	847	804	769	744	709	642	608	523	610	552
10	1040	920	846	803	768	744	708	632	604	519	608	552
11	1040	914	847	799	767	743	708	628	601	516	608	549
12	1040	911	849	797	766	741	707	628	596	513	608	546
13	1040	910	843	795	764	740	705	624	592	509	607	543
14	1030	908	841	793	763	739	705	622	586	507	603	541
15	1030	901	838	792	763	738	704	622	586	502	601	537
16	1030	900	838	790	762	737	704	622	582	500	600	535
17	1020	893	838	788	762	737	695	617	579	508	597	532
18	1020	888	835	787	762	736	693	616	573	615	593	530
19	1010	888	833	787	761	735	691	616	572	614	590	528
20	1010	886	831	785	760	734	691	609	567	611	588	524
21	1010	883	829	785	759	734	689	607	564	608	586	522
22	1000	883	829	785	758	733	688	605	560	603	586	518
23	1000	875	827	782	757	733	679	605	558	600	587	518
24	998	873	826	781	757	732	679	605	556	596	586	516
25	995	872	826	781	756	732	675	601	552	594	582	511
26	992	870	826	780	755	731	672	598	549	593	579	510
27	988	868	825	778	754	731	667	595	545	591	580	506
28	983	869	823	776	752	729	666	602	544	587	580	502
29	978	872	821	775	---	729	666	628	540	585	578	498
30	975	869	820	774	---	728	666	628	537	580	579	498
31	972	---	819	771	---	728	---	627	---	578	577	---
MAX	1080	971	862	815	771	751	720	654	625	615	617	575
MIN	972	868	819	771	752	728	666	595	537	500	574	498

WTR YR 1981 MAX 1080 MIN 498

07099235 TURKEY CREEK NEAR STONE CITY, CO

LOCATION.--Lat 38°26'27", long 104°49'31", in SE¼NW¼ sec.31, T.18 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on Fort Carson Military Reservation, on left bank, 0.1 mi (0.2 km) downstream from Teller Reservoir Dam, 1 mi (1.6 km) upstream from Military road No. 11, and 2.1 mi (3.4 km) southeast of Stone City.

DRAINAGE AREA.--71.5 mi² (185 km²).

PERIOD OF RECORD.--May 1978 to current year.

REVISED RECORDS.--WDR CO-80-1: 1979(M).

GAGE.--Water-stage recorder and concrete control. Altitude of gage 5,400 ft (1,646 m), from topographic map.

REMARKS.--Records good. Flow regulated by Teller Reservoir 0.1 mi (0.2 km) upstream. Gage records seepage from reservoir. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2.7 ft³/s (0.076 m³/s) Aug. 2, 1981, gage height, 0.65 ft (0.198 m); minimum daily, 0.01 ft³/s (0.001 m³/s) on many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2.7 ft³/s (0.076 m³/s) at 1715 Aug. 2, gage height, 0.65 ft (0.198 m); minimum daily, 0.25 ft³/s (0.007 m³/s) June 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.3	1.0	.76	.56	.53	.74	.49	.41	.36	.65	.41
2	1.0	1.3	1.0	.65	.56	.48	.71	.48	.41	.35	.65	.41
3	1.0	1.3	1.0	.65	.56	.49	.76	.48	.42	.43	.65	.41
4	1.0	1.3	1.0	.65	.48	.48	.69	.45	.41	.41	.65	.41
5	1.0	1.3	1.0	.65	.48	.48	.68	.45	.41	.41	.65	.41
6	.98	1.3	.90	.65	.48	.51	.74	.41	.41	.41	.65	.41
7	.95	1.4	.90	.74	.48	.56	.56	.42	.38	.41	.56	.41
8	.95	1.4	.90	.76	.51	.56	.56	.41	.35	.41	.56	.41
9	.92	1.4	.90	.75	.56	.56	.56	.38	.34	.41	.57	.41
10	.91	1.3	.90	.65	.52	.56	.56	.36	.30	.41	.57	.34
11	.89	1.3	.88	.65	.52	.56	.56	.41	.30	.41	.56	.35
12	.89	1.3	.86	.65	.56	.56	.55	.41	.32	.41	.64	.35
13	.96	1.3	.86	.65	.56	.56	.48	.41	.30	.41	.65	.35
14	.97	1.3	.86	.65	.56	.64	.48	.41	.30	.41	.65	.35
15	1.1	1.3	.86	.65	.56	.65	.48	.41	.30	.42	.65	.35
16	1.1	1.3	.86	.65	.56	.65	.48	.41	.35	.48	.65	.35
17	1.1	1.3	.86	.56	.56	.65	.48	.36	.35	.48	.56	.35
18	1.1	1.3	.86	.56	.56	.65	.48	.35	.31	.60	.56	.35
19	1.1	1.3	.76	.56	.56	.65	.41	.35	.30	.65	.56	.35
20	1.1	1.3	.76	.56	.56	.69	.40	.35	.31	.67	.56	.35
21	1.1	1.3	.76	.56	.49	.76	.41	.37	.35	.76	.48	.35
22	1.1	1.2	.76	.56	.48	.76	.40	.37	.35	.76	.48	.35
23	1.1	1.2	.76	.56	.48	.76	.35	.41	.32	.76	.46	.35
24	1.1	1.2	.76	.56	.48	.76	.35	.38	.30	.76	.48	.35
25	1.1	1.2	.76	.56	.48	.76	.38	.41	.30	.76	.48	.35
26	1.1	1.1	.76	.56	.48	.76	.41	.45	.30	.76	.48	.30
27	1.3	1.1	.77	.56	.48	.76	.46	.41	.28	.76	.48	.30
28	1.3	1.1	.77	.56	.48	.76	.56	.41	.27	.76	.48	.30
29	1.3	1.0	.76	.56	---	.76	.56	.43	.25	.71	.48	.30
30	1.3	1.0	.76	.56	---	.76	.52	.48	.28	.65	.43	.30
31	1.3	---	.76	.56	---	.76	---	.46	---	.65	.41	---
TOTAL	33.12	37.7	26.30	19.21	14.60	19.83	15.76	12.78	9.98	17.04	17.34	10.78
MEAN	1.07	1.26	.85	.62	.52	.64	.53	.41	.33	.55	.56	.36
MAX	1.3	1.4	1.0	.76	.56	.76	.76	.49	.42	.76	.65	.41
MIN	.89	1.0	.76	.56	.48	.48	.35	.35	.25	.35	.41	.30
AC-FT	66	75	52	38	29	39	31	25	20	34	34	21

CAL YR 1980 TOTAL 319.67 MEAN .87 MAX 2.3 MIN .03 AC-FT 634
WTR YR 1981 TOTAL 234.44 MEAN .64 MAX 1.4 MIN .25 AC-FT 465

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO

LOCATION.--Lat 38°16'15", long 104°43'30", in NE¼ sec.36, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, at dam on Arkansas River 7 mi (11 km) west of Pueblo.

DRAINAGE AREA.--4,669 mi^2 (12,093 km^2).

PERIOD OF RECORD.--January 1974 to current year.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929, (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir is formed by concrete and earthfill dam. Storage began Jan. 9, 1974; dam completed in August 1975. Capacity, 357,700 acre-ft (441 hm^3) at elevation 4,898.70 ft (1,493.124 m), crest of spillway. Dead storage, 3,730 acre-ft (4.60 hm^3) below elevation 4,764.00 ft (1,452.067 m), invert of river outlet. Reservoir is terminal reservoir of the Fryingpan-Arkansas project and is used to provide flood control, municipal and industrial supplies, and to fulfill irrigation requirements in the Arkansas River valley. Figures given are total contents.

COOPERATION.--Records furnished by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 105,480 acre-ft (130 hm^3) May 17, 1980, elevation, 4,835.60 ft (1,473.909 m); minimum since appreciable storage was attained, 22,680 acre-ft (28.0 hm^3) Nov. 13, 1974, elevation, 4,790.50 ft (1,460.144 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 98,460 acre-ft (121 hm^3) Mar 14, elevation, 4,832.91 ft (1,473.071 m); minimum, 30,150 acre-ft (37.2 hm^3) July 24, elevation, 4,796.54 ft (1,461.985 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	4,799.96	34,700	-
Oct. 31.	4,801.07	36,260	+1,560
Nov. 30.	4,810.01	50,110	+13,850
Dec. 31.	4,821.93	72,810	+22,700
CAL YR 1980		-	+13,760
Jan. 31.	4,828.48	87,520	+14,710
Feb. 28.	4,831.36	94,540	+7,020
Mar. 31.	4,830.90	93,400	-1,140
Apr. 30.	4,824.32	77,970	-15,430
May 31.	4,817.94	64,700	-13,270
June 30.	4,808.90	48,260	-16,440
July 31.	4,797.98	32,020	-16,240
Aug. 31.	4,797.37	31,220	-800
Sept. 30.	4,798.69	32,970	+1,750
WTR YR 1981			-1,730

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO

LOCATION.--Lat 38°16'17", long 104°43'06", in NE¼NE¼ sec.36, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on left bank 450 ft (140 m) downstream from headgate of west Pueblo ditch, 0.4 mi (0.6 km) downstream from Pueblo Dam, and 7 mi (11 km) west of Pueblo.

DRAINAGE AREA.--4,670 mi^2 (12,095 km^2).

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,740 ft (1,445 m), from topographic map. Prior to Mar. 23, 1967, at site 730 ft (220 m) upstream at datum 1.23 ft (0.375 m) higher. May 24, 1974, to Feb. 24, 1975, at site 2,000 ft (610 m) downstream at different datum.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions above station for irrigation of about 88,000 acres (356 km^2) and return flow from irrigated areas. Flow completely regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--8 years (water years 1966-73), 643 ft^3/s (18.21 m^3/s), 465,900 acre-ft/yr (574 hm^3/yr), prior to completion of Pueblo Dam; 7 years (1975-81), 571 ft^3/s (16.17 m^3/s), 413,700 acre-ft/yr (510 hm^3/yr) subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft^3/s (286 m^3/s) Aug. 1, 1966, gage height, 9.4 ft (2.87 m), from floodmarks, present site and datum, from rating curve extended above 1,600 ft^3/s (45 m^3/s), on basis of slope-area measurement of peak flow; minimum daily, 28 ft^3/s (0.79 m^3/s) May 11, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,430 ft^3/s (68.8 m^3/s) at 2330 June 10, gage height, 4.74 ft (1.445 m); minimum daily, 61 ft^3/s (1.73 m^3/s) Nov. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	254	352	62	70	72	146	192	684	750	486	656	668
2	250	316	62	69	73	146	168	673	739	472	486	620
3	238	282	62	69	72	132	136	722	717	530	472	476
4	238	238	62	70	73	75	120	817	937	635	578	166
5	223	254	63	70	73	75	105	847	1130	605	678	180
6	215	292	65	70	73	75	84	756	1320	794	580	414
7	212	306	65	69	73	73	81	673	1620	865	600	404
8	220	296	63	68	75	75	81	585	2140	778	756	400
9	260	278	66	69	75	75	97	495	2330	615	847	555
10	302	292	66	70	75	75	164	388	2240	590	859	525
11	302	292	65	70	75	73	282	404	2400	625	1250	525
12	288	274	66	69	73	73	310	436	2170	625	737	555
13	282	250	66	69	73	75	340	445	1690	656	541	640
14	254	160	66	69	73	120	364	490	1440	734	817	560
15	238	75	66	69	73	164	372	510	1270	734	429	384
16	264	75	66	70	73	188	372	228	1120	800	823	328
17	306	75	68	70	72	232	372	132	1250	913	794	368
18	328	76	66	73	72	260	364	140	1210	883	574	404
19	344	69	66	73	131	268	352	136	756	1260	340	376
20	344	62	68	72	302	296	396	138	756	1420	348	324
21	356	62	70	73	229	328	376	144	535	1290	313	306
22	396	61	70	73	202	328	364	142	525	973	302	306
23	409	62	69	72	185	336	364	148	418	877	372	306
24	380	62	69	70	178	328	344	166	486	739	360	288
25	344	63	69	75	180	336	313	192	620	728	254	257
26	344	63	69	76	160	340	262	223	728	605	215	254
27	360	65	69	75	142	336	508	235	761	565	260	247
28	368	63	69	73	142	352	590	257	630	761	313	223
29	368	63	69	72	---	352	610	296	565	823	344	202
30	376	62	69	72	---	344	656	436	515	656	624	208
31	376	---	69	72	---	271	---	700	---	610	706	---
TOTAL	9439	4940	2060	2201	3169	6347	9099	12638	33768	23647	17228	11469
MEAN	304	165	66.5	71.0	113	205	303	408	1126	763	556	382
MAX	409	352	70	76	302	352	656	847	2400	1420	1250	668
MIN	212	61	62	68	72	73	81	132	418	472	215	166
AC-FT	18720	9800	4090	4370	6290	12590	18050	25070	66980	46900	34170	22750

CAL YR 1980 TOTAL 357097 MEAN 976 MAX 5340 MIN 47 AC-FT 708300
WTR YR 1981 TOTAL 136005 MEAN 373 MAX 2400 MIN 61 AC-FT 269800

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO

LOCATION.--Lat 38°51'17", long 104°52'39", in SE¼SW¼ sec.3, T.14 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank 200 ft (61 m) upstream from diversion to city of Colorado Springs, 0.5 mi (0.8 km) east of bridge on U.S. Highway 24 near west city limits of Colorado Springs, and 1.0 mi (1.6 km) downstream from Sutherland Creek.

DRAINAGE AREA.--103 mi^2 (267 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1958 to current year.

GAGE.--Water-stage recorder and Parshall flume with overflow weirs. Altitude of gage is 6,110 ft (1,862 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation and municipal use, and at times, transbasin diversion from Beaver Creek drainage and transmountain diversions from Colorado River basin.

AVERAGE DISCHARGE.--23 years, 12.6 ft^3/s (0.357 m^3/s), 9,130 acre-ft/yr (11.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,630 ft^3/s (74.5 m^3/s) Aug. 4, 1964, gage height, 5.27 ft (1.606 m), from rating curve extended above 190 ft^3/s (5.4 m^3/s), on basis of slope-area measurements at gage heights 3.87, 4.52, and 5.27 ft (1.180, 1.378, and 1.606 m); minimum daily, 2.0 ft^3/s (0.057 m^3/s) Jan. 24, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 650 ft^3/s (18.4 m^3/s) at 2200 June 2, from slope-area measurement of peak flow, gage height, 4.25 ft (1.295 m), from floodmark; minimum daily, 3.2 ft^3/s (0.09 m^3/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	13	9.8	9.1	4.8	8.6	10	8.8	16	20	8.0	21
2	9.6	13	9.7	9.1	5.7	8.4	10	11	44	23	11	13
3	8.9	13	9.6	9.0	7.8	8.5	11	12	21	22	17	13
4	10	13	10	9.1	7.0	8.9	10	12	17	20	14	14
5	10	14	11	9.1	7.2	7.9	9.8	10	16	13	8.8	12
6	10	13	10	9.0	7.9	8.7	9.4	9.4	17	10	18	14
7	12	13	11	8.8	7.1	9.4	8.9	8.8	16	9.6	25	18
8	11	13	10	8.7	7.6	8.2	9.2	8.1	12	6.7	17	15
9	12	13	9.7	8.4	8.0	8.0	8.9	9.3	8.6	6.1	17	16
10	12	13	10	8.2	6.7	8.0	10	9.0	7.6	6.2	38	15
11	12	12	11	7.4	3.2	7.8	11	9.9	7.4	6.0	28	21
12	11	12	11	7.5	6.8	7.9	11	8.6	10	20	34	24
13	11	12	10	8.0	10	8.0	14	8.1	9.4	9.4	27	26
14	12	12	10	7.1	7.9	7.8	9.6	8.2	7.0	8.5	16	15
15	15	12	10	7.1	7.8	8.0	9.6	8.1	8.0	8.0	35	15
16	25	11	10	7.9	7.7	8.3	9.5	8.7	7.2	7.6	43	15
17	21	9.0	10	7.2	10	8.1	9.2	10	6.6	8.4	29	16
18	16	9.2	9.9	8.2	11	8.1	9.0	11	6.5	8.6	20	15
19	17	10	9.5	9.1	8.2	8.3	8.9	9.5	6.6	9.0	26	15
20	17	10	9.7	8.4	8.4	8.5	9.7	8.8	6.4	7.4	26	14
21	16	10	11	7.9	8.4	7.9	12	8.2	6.6	6.0	37	13
22	16	12	14	8.2	8.4	7.7	10	7.0	6.3	5.5	20	12
23	14	12	9.2	9.5	8.5	8.2	9.2	8.9	5.9	10	26	12
24	14	11	8.8	8.7	8.5	8.7	8.9	9.8	7.6	21	15	20
25	14	10	9.9	8.6	8.2	8.5	7.9	9.4	9.5	11	10	13
26	14	11	14	7.2	8.3	8.7	9.7	9.5	9.4	25	9.9	11
27	14	11	10	7.5	8.2	9.1	8.5	8.7	7.7	12	19	11
28	14	11	9.5	8.5	8.0	11	10	12	14	20	23	11
29	14	10	9.5	8.3	---	10	11	15	15	18	12	9.0
30	14	10	9.5	7.9	---	9.9	8.2	16	14	7.9	12	9.0
31	14	---	9.4	7.8	---	9.5	---	16	---	7.3	19	---
TOTAL	420.5	348.2	316.7	256.5	217.3	264.6	294.1	309.8	346.3	373.2	660.7	448.0
MEAN	13.6	11.6	10.2	8.27	7.76	8.54	9.80	9.99	11.5	12.0	21.3	14.9
MAX	25	14	14	9.5	11	11	14	16	44	25	43	26
MIN	8.9	9.0	8.8	7.1	3.2	7.7	7.9	7.0	5.9	5.5	8.0	9.0
AC-FT	834	691	628	509	431	525	583	614	687	740	1310	889

CAL YR 1980 TOTAL 11796.9 MEAN 32.2 MAX 267 MIN 4.0 AC-FT 23400
WTR YR 1981 TOTAL 4255.9 MEAN 11.7 MAX 44 MIN 3.2 AC-FT 8440

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
FEB 12...	1100	9.3	340	352	7.6	.0	11.6	1.3	120	37
MAR 17...	1250	8.0	345	346	7.7	5.0	10.2	1.4	120	35
APR 16...	1330	9.0	--	351	8.2	13.5	8.5	1.9	120	37
MAY 20...	1000	9.0	--	352	7.8	7.0	9.8	.9	130	38
JUN 16...	1230	7.8	352	363	7.9	13.5	8.2	<1.6	130	38
JUL 14...	1315	9.6	--	298	7.9	18.5	7.3	1.9	110	32
AUG 18...	1200	26	--	207	7.6	14.5	7.8	<2.5	72	22
SEP 15...	1115	14	--	260	7.8	12.0	8.6	.8	96	29

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	ALKA-LINITY LAB (MG/L AS CACO3)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
FEB 12...	7.4	--	7	1.2	.070	.74	.81	2.0	.060
MAR 17...	7.1	110	4	1.1	.090	.56	.65	1.8	.060
APR 16...	7.4	120	24	.70	.080	.20	.28	.98	.050
MAY 20...	7.7	130	3	.86	.090	.58	.67	1.5	.050
JUN 16...	7.4	130	560	.81	.160	.54	.70	1.5	.100
JUL 14...	6.2	100	59	.64	.040	.78	.82	1.5	.070
AUG 18...	4.1	66	233	.50	.130	.83	.96	1.5	.140
SEP 15...	5.8	89	26	.57	.120	.78	.90	1.5	.030

DATE	TIME	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)
FEB 12...	1100	0	0	1	8	410	80	2
MAR 17...	1250	0	0	0	6	320	40	6
APR 16...	1330	0	10	0	9	790	70	4
MAY 20...	1000	1	0	0	9	510	40	9
JUN 16...	1230	0	10	0	9	560	60	8
JUL 14...	1315	0	0	0	7	2000	70	8
AUG 18...	1200	1	0	0	12	6600	60	17
SEP 15...	1115	0	0	0	6	1500	60	16

DATE	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
FEB 12...	70	50	.0	3	3	0	40
MAR 17...	80	60	.1	2	0	<0	50
APR 16...	130	50	.1	4	1	<0	40
MAY 20...	80	40	.1	4	0	<0	10
JUN 16...	80	50	.1	4	0	0	30
JUL 14...	120	20	.1	2	0	<0	30
AUG 18...	350	17	.2	4	0	0	100
SEP 15...	120	45	.1	2	0	0	40

07103707 FOUNTAIN CREEK BELOW 8th STREET, AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°49'46", long 104°50'21", in NW¼SE¼ sec.13, T.14 S., R.67 W., El Paso County, Hydrologic Unit 11020003, in Colorado Springs, 270 ft (82 m) downstream from 8th Street and 0.4 mi (0.6 km) upstream from confluence of Fountain Creek and Monument Creek.

PERIOD OF RECORD.--February to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	ALKA-LINITY LAB (MG/L AS CACO3)
FEB 12...	0945	4.3	810	827	8.1	.5	11.2	1.9	280	72	24	160
MAR 17...	1400	2.5	945	926	8.1	8.5	10.6	1.3	310	76	30	150
APR 16...	1420	.93	1640	1610	7.6	20.0	7.6	.6	630	140	67	210
MAY 20...	1045	2.2	1120	1160	7.4	11.0	8.8	1.0	410	95	41	180
JUN 16...	1330	1.7	972	969	7.5	22.0	7.2	<1.5	330	79	33	160
JUL 14...	1400	4.5	798	819	7.3	25.0	6.4	9.0	300	76	27	140
AUG 18...	1250	26	301	306	7.3	17.0	7.6	<2.3	100	29	7.6	76
SEP 15...	1200	8.9	628	654	7.3	16.0	7.8	2.1	230	52	24	110

DATE	SULFIDE TOTAL (MG/L AS S)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)
FEB 12...	.0	12	2.6	.020	2.6	.130	.81	.94	3.5	.060	.070
MAR 17...	.7	3	2.6	.040	2.6	.120	.83	.95	3.6	.040	.030
APR 16...	2.0	3	4.3	.070	4.4	.090	.47	.56	5.0	.040	.020
MAY 20...	.2	1	2.6	.030	2.6	.110	.66	.77	3.4	.040	.000
JUN 16...	.0	570	1.6	.040	1.6	.200	.90	1.10	2.7	.100	.080
JUL 14...	.2	53	1.6	.030	1.6	.110	.89	1.00	2.6	.080	.010
AUG 18...	.5	196	.54	.020	.56	.070	.89	.96	1.5	.160	.020
SEP 15...	.0	90	1.4	.050	1.4	.180	1.0	1.20	2.6	.170	.040

07103707 FOUNTAIN CREEK BELOW 8th STREET, AT COLORADO SPRINGS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
FEB 12...	0	0	1	10	400	90	4	380
MAR 17...	1	10	0	10	830	120	8	290
APR 16...	1	10	0	8	900	140	15	3100
MAY 20...	2	10	0	9	870	60	10	1800
JUN 16...	1	10	0	6	570	90	15	1500
JUL 14...	1	0	0	6	1300	20	9	1200
AUG 18...	1	20	0	13	6500	48	28	420
SEP 15...	1	0	0	18	8200	16	77	1500

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
FEB 12...	360	.1	0	8	0	140	.01
MAR 17...	--	.1	18	10	0	60	.01
APR 16...	3100	.1	9	14	0	740	.03
MAY 20...	1800	.1	6	11	0	520	.02
JUN 16...	1600	.1	4	1	0	400	.02
JUL 14...	1200	.2	4	6	<0	300	.02
AUG 18...	120	.2	4	1	0	120	.00
SEP 15...	1300	.2	10	6	0	500	.02

DATE	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)
FEB 12...	8.2	.3	12	.4	7.9	1.4	7.6	1.5	.1	8.9
JUN 16...	<15	.4	<22	.6	<8.1	1.5	<7.7	1.5	.1	13

07103747 MONUMENT CREEK AT PALMER LAKE, CO

LOCATION.--Lat 39°06'07", long 104°53'27", in SE¼SE¼ sec.9, T.11 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.9 mi (1.4 km) upstream from Monument Lake, 1.5 mi (7.4 km) downstream from North Monument Creek, and 1.9 mi (3.1 km) southeast of town of Palmer Lake.

DRAINAGE AREA.--25.9 mi^2 (67.1 km^2).

PERIOD OF RECORD.--February 1977 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,950 ft (2,118 m), from topographic map. Record not equivalent to former downstream site.

REMARKS.--Records good except those for periods of no gage-height record and those above 130 ft^3/s (3.68 m^3/s), which are poor. Storage and diversions above station for municipal supply of Palmer Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 216 ft^3/s (6.12 m^3/s) Aug. 2, 1981, from rating curve extended above 130 ft^3/s (3.68 m^3/s), gage height, 2.07 ft (0.631 m), from floodmark; minimum daily, 0.10 ft^3/s (0.003 m^3/s) many days in 1978-79.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 216 ft^3/s (6.12 m^3/s) at 2345 Aug. 2, from rating curve extended above 130 ft^3/s (3.68 m^3/s), gage height, 2.07 ft (0.631 m), from floodmark; minimum daily, 0.40 ft^3/s (0.011 m^3/s) Feb. 9-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	1.1	1.5	1.3	.50	.94	6.2	5.4	11	2.7	.59	.74
2	.66	1.2	1.5	1.2	.60	1.1	6.6	5.0	9.9	3.6	10	.74
3	.66	1.2	1.5	1.2	.70	1.3	7.4	5.6	13	3.1	5.5	.76
4	.82	1.1	1.5	1.2	.60	2.8	6.8	6.9	13	2.6	1.1	.80
5	.50	1.1	1.5	1.2	.60	3.4	8.0	6.0	12	2.2	1.0	.79
6	.58	1.1	1.4	1.2	.70	3.3	6.6	5.5	11	1.8	.98	.85
7	.66	1.2	1.4	1.2	.60	2.0	8.4	4.8	9.8	1.5	.88	1.2
8	.66	1.1	1.4	1.4	.50	1.6	9.7	4.3	9.4	1.4	.82	1.1
9	.66	1.1	1.4	1.2	.40	1.6	9.2	5.1	8.6	1.3	.83	1.1
10	.64	1.2	1.4	1.4	.40	1.8	12	5.5	8.4	1.2	.98	.93
11	.64	1.2	1.5	1.4	.50	1.7	12	7.4	7.5	1.2	1.1	.86
12	.64	1.2	1.5	1.8	.60	1.7	14	7.5	7.2	1.2	2.2	.95
13	.64	1.2	1.5	1.3	.70	1.7	12	7.0	6.1	1.4	2.0	1.3
14	.64	1.3	1.5	1.5	.70	1.7	11	6.8	5.6	1.2	1.6	1.6
15	.64	1.3	1.5	1.5	.80	1.7	12	6.8	5.8	1.0	1.7	1.6
16	.60	1.3	1.5	.87	.80	1.8	12	8.0	5.0	.97	2.2	1.8
17	.60	1.2	1.5	.95	.80	1.9	12	13	4.0	1.0	2.5	1.7
18	.60	1.2	1.5	1.3	.90	2.0	13	16	3.5	1.1	2.0	1.6
19	.60	1.1	1.4	.95	1.0	2.0	13	15	3.3	.97	1.7	1.3
20	.60	1.1	1.3	1.2	1.4	2.0	13	20	2.9	.85	1.4	1.1
21	.58	1.1	1.3	.94	1.2	2.2	12	19	2.9	.72	1.2	.96
22	.58	1.2	1.3	.92	1.2	2.2	11	16	2.5	.67	1.1	.95
23	.66	1.3	1.3	.86	1.2	2.3	9.9	16	2.3	.59	1.0	.92
24	.58	1.3	1.3	.86	1.4	2.4	9.5	16	2.3	.48	.94	.90
25	.66	1.4	1.3	.80	1.6	2.5	8.9	16	2.4	.52	.90	1.1
26	.66	1.5	1.3	.80	1.6	2.7	8.1	15	2.2	.72	.91	1.2
27	.82	1.5	1.3	.80	1.5	3.1	7.7	13	2.0	.72	.87	1.1
28	.82	1.4	1.3	.80	1.4	6.1	6.8	13	2.0	.64	.89	.98
29	.98	1.5	1.3	.80	---	6.4	6.6	12	3.0	.64	.82	.79
30	.98	1.5	1.3	.70	---	5.5	5.8	13	2.9	.58	.80	.74
31	1.1	---	1.3	.60	---	6.1	---	12	---	.55	.74	---
TOTAL	21.12	37.2	43.5	34.15	24.90	79.54	291.2	322.6	181.5	39.12	51.25	32.46
MEAN	.68	1.24	1.40	1.10	.89	2.57	9.71	10.4	6.05	1.26	1.65	1.08
MAX	1.1	1.5	1.5	1.8	1.6	6.4	14	20	13	3.6	10	1.8
MIN	.50	1.1	1.3	.60	.40	.94	5.8	4.3	2.0	.48	.59	.74
AC-FT	42	74	86	68	49	158	578	640	360	78	102	64

CAL YR 1980 TOTAL 3371.53 MEAN 9.21 MAX 125 MIN .50 AC-FT 6690
WTR YR 1981 TOTAL 1158.54 MEAN 3.17 MAX 20 MIN .40 AC-FT 2300

NOTE.--NO GAGE-HEIGHT RECORD DEC. 1 TO JAN. 7, JAN. 24 TO FEB. 28, AUG. 2-5.

07103800 WEST MONUMENT CREEK AT U.S. AIR FORCE ACADEMY, CO

LOCATION.--Lat 38°58'14", long 104°54'08", in SW¼SW¼ sec.28, T.12 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank 500 ft (150 m) upstream from diversion to city of Colorado Springs water-treatment plant, 2.7 mi (4.3 km) south of U.S. Air Force Academy chapel, and 4.4 mi (7.1 km) upstream from mouth.

DRAINAGE AREA.--14.9 mi^2 (38.6 km^2).

PERIOD OF RECORD.--May 1970 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,180 ft (2,188 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions from Colorado River basin, storage reservoirs, and operation of water-supply system. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years, 2.38 ft^3/s (0.067 m^3/s), 1,720 acre-ft/yr (2.12 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80 ft^3/s (2.27 m^3/s) May 8, 1980, gage height, 2.73 ft (0.832 m) from rating curve extended above 34 ft^3/s (0.96 m^3/s); maximum gage height, 3.31 ft (1.009 m) Dec. 22, 1976 (backwater from ice); no flow on many days in 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27 ft^3/s (0.76 m^3/s) at 0100 Aug. 3, gage height, 2.06 ft (0.628 m); minimum daily, 0.01 ft^3/s (0.001 m^3/s) Feb. 25-Mar. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19	.23	.20	.31	.05	.01	.25	.37	.31	.14	.13	2.3
2	.20	.22	.20	.31	.05	.01	.31	.34	.31	.16	.11	2.1
3	.20	.19	.22	.33	.05	.02	.30	.34	1.1	.18	6.4	2.1
4	.19	.20	.22	.33	.05	.02	.19	.28	.70	.28	2.2	1.9
5	.18	.20	.20	.35	.05	.03	.15	.22	.56	.13	2.0	1.8
6	.20	.19	.23	.28	.04	.03	.23	.27	.45	.09	4.6	1.7
7	.20	.19	.23	.32	.04	.04	.28	.20	.45	.06	3.5	1.7
8	.20	.19	.20	.22	.03	.04	.34	.16	.35	.17	2.9	1.6
9	.20	.20	.21	.23	.03	.05	.38	.24	.31	.05	2.7	1.5
10	.20	.19	.21	.21	.02	.05	.44	.23	.27	.04	2.9	1.4
11	.22	.17	.20	.15	.02	.06	.40	.39	.31	.04	2.8	1.4
12	.19	.17	.20	.13	.02	.07	.39	.25	.77	.09	5.5	1.6
13	.19	.20	.20	.15	.02	.07	.45	.20	.35	.14	8.9	1.7
14	.18	.18	.18	.10	.03	.07	.35	.18	.31	.13	8.5	1.4
15	.21	.16	.22	.10	.03	.08	.34	.16	.31	.09	9.4	1.3
16	.18	.16	.23	.10	.08	.08	.38	.25	.27	.39	10	1.3
17	.19	.16	.23	.09	.13	.09	.37	.39	.24	.23	9.6	1.2
18	.20	.16	.23	.08	.03	.09	.42	.40	.23	.20	8.8	1.1
19	.20	.17	.21	.07	.04	.09	.43	.33	.19	.14	7.7	1.1
20	.20	.18	.31	.07	.04	.12	.52	.29	.16	.09	6.0	.99
21	.20	.18	.28	.07	.03	.12	.39	.23	.13	.06	5.1	.97
22	.20	.18	.27	.08	.02	.11	.37	.17	.11	.11	5.1	.93
23	.20	.18	.27	.08	.03	.10	.35	.31	.13	.09	4.6	.88
24	.20	.17	.23	.08	.02	.11	.32	.40	.12	.49	4.0	.93
25	.20	.15	.37	.12	.01	.10	.26	.38	.10	.18	3.7	.93
26	.21	.15	.31	.10	.01	.18	.27	.39	.16	.35	3.4	.82
27	.23	.15	.32	.09	.01	.25	1.7	.31	.14	.52	3.2	.76
28	.23	.16	.32	.08	.01	.22	.57	.29	.28	.30	3.0	.74
29	.22	.19	.32	.07	---	.25	.17	.31	.26	.28	2.7	.71
30	.23	.20	.31	.06	---	.29	.31	.40	.15	.17	2.6	.70
31	.23	---	.31	.06	---	.24	---	.35	---	.13	2.3	---
TOTAL	6.27	5.42	7.64	4.82	.99	3.09	11.63	9.03	9.53	5.52	144.34	39.56
MEAN	.20	.18	.25	.16	.035	.10	.39	.29	.32	.18	4.66	1.32
MAX	.23	.23	.37	.35	.13	.29	1.7	.40	1.1	.52	10	2.3
MIN	.18	.15	.18	.06	.01	.01	.15	.16	.10	.04	.11	.70
AC-FT	12	11	15	9.6	2.0	6.1	23	18	19	11	286	78

CAL YR 1980 TOTAL 1166.84 MEAN 3.19 MAX 59 MIN .10 AC-FT 2310
WTR YR 1981 TOTAL 247.84 MEAN .68 MAX 10 MIN .01 AC-FT .492

07103950 KETTLE CREEK NEAR BLACK FOREST, CO

LOCATION.--Lat 39°00'14", long 104°44'21", in NE¼SE¼ sec.14, T.12 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on right bank 13 ft (4 m) downstream from bridge on Milan Rd., 1.2 mi (1.9 km) downstream from Burgess Creek, and 2.2 mi (3.5 km) southwest of Black Forest.

DRAINAGE AREA.--9.01 mi^2 (23.34 km^2).

PERIOD OF RECORD.--May 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,980 ft (2,130 m), from topographic map.

REMARKS.--Records good except those above 20 ft^3/s (0.57 m^3/s), which are fair, and those for period of no gage-height record, which are poor. No known diversion above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--5 years, 0.86 ft^3/s (0.024 m^3/s), 623 acre-ft/yr (0.77 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft^3/s (65.1 m^3/s) Aug. 5, 1981, gage height, 4.41 ft (0.549 m), from floodmark, from rating curve extended above 20 ft^3/s (0.57 m^3/s) on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,300 ft^3/s (65.1 m^3/s) at 2300 Aug. 5, gage height, 4.41 ft (1.344 m), result of slope-area measurement of peak flow, only known peak above base of 5 ft^3/s (0.19 m^3/s); minimum daily, 0.04 ft^3/s (0.001 m^3/s) Nov. 13-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	.08	.08	.06	.10	.17	.10	.22	.14	.12	.11	.74
2	.17	.06	.08	.06	.10	.16	.12	.25	.21	.09	.12	.62
3	.17	.06	.08	.06	.10	.14	.20	.28	.40	.08	3.2	.73
4	.17	.06	.08	.06	.10	.13	.12	.25	.25	.07	.57	.77
5	.17	.06	.08	.06	.09	.25	.11	.25	.22	.06	220	.73
6	.17	.06	.08	.06	.09	.21	.13	.25	.24	.06	140	.57
7	.17	.06	.09	.05	.09	.17	.17	.27	.27	.06	1.0	.47
8	.14	.06	.10	.08	.09	.17	.22	.25	.23	.07	2.7	.39
9	.14	.06	.10	.06	.10	.21	.28	.29	.17	.06	46	.40
10	.14	.06	.11	.06	.10	.17	.28	.29	.13	.06	42	.63
11	.14	.06	.10	.06	.11	.21	.21	.34	.13	.07	5.1	.64
12	.14	.06	.08	.10	.14	.21	.22	.34	.16	.07	3.2	.40
13	.14	.04	.08	.10	.17	.17	.26	.34	.12	.09	3.0	.55
14	.14	.04	.08	.08	.09	.14	.20	.34	.09	.08	2.7	.47
15	.14	.04	.08	.08	.11	.15	.24	.34	.08	.09	2.0	.40
16	.14	.04	.08	.08	.12	.15	.21	.44	.07	.11	1.5	.55
17	.14	.06	.08	.07	.12	.10	.20	.51	.06	.12	1.1	.55
18	.14	.07	.08	.06	.08	.10	.21	.47	.06	.11	.96	.55
19	.14	.08	.08	.06	.08	.10	.22	.45	.06	.10	.64	.55
20	.14	.08	.08	.06	.08	.10	.18	.40	.05	.10	.73	.47
21	.14	.08	.08	.06	.08	.08	.17	.36	.06	.11	.42	.64
22	.14	.07	.08	.06	.10	.09	.17	.29	.05	.12	1.3	.55
23	.14	.08	.08	.08	.09	.06	.21	.36	.05	.10	2.1	.40
24	.14	.07	.08	.08	.11	.07	.21	.39	.06	.09	1.2	.47
25	.12	.06	.08	.08	.17	.08	.21	.41	.06	.10	.75	.45
26	.12	.07	.08	.08	.14	.09	.18	.38	.06	.09	.76	.40
27	.12	.07	.08	.08	.14	.14	.21	.39	.06	.50	.77	.25
28	.12	.08	.08	.08	.14	.05	.21	.36	.09	.20	.62	.25
29	.11	.08	.06	.08	---	.37	.21	.35	.11	.12	.49	.29
30	.10	.08	.05	.08	---	.27	.21	.27	.09	.10	.57	.40
31	.10	---	.06	.09	---	.20	---	.15	---	.09	.62	---
TOTAL	4.36	1.93	2.51	2.21	3.03	4.71	5.87	10.28	3.83	3.29	486.23	15.28
MEAN	.14	.064	.081	.071	.11	.15	.20	.33	.13	.11	15.7	.51
MAX	.17	.08	.11	.10	.17	.37	.28	.51	.40	.50	220	.77
MIN	.10	.04	.05	.05	.08	.05	.10	.15	.05	.06	.11	.25
AC-FT	8.6	3.8	5.0	4.4	6.0	9.3	12	20	7.6	6.5	964	30

CAL YR 1980 TOTAL 615.20 MEAN 1.68 MAX 29 MIN .04 AC-FT 1220
WTR YR 1981 TOTAL 543.53 MEAN 1.49 MAX 220 MIN .04 AC-FT 1080

NOTE.--NO GAGE-HEIGHT RECORD JULY 14 TO AUG. 17.

07104000 MONUMENT CREEK AT PIKEVIEW, CO

LOCATION.--Lat 38°55'04", long 104°49'05", in NW¼SE¼ sec.18, T.13 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on right bank at downstream side of abandoned bridge at northeast edge of Pikeview, 600 ft (180 m) upstream from unnamed tributary, 1,200 ft (370 m) upstream from bridge on U.S. Interstate Highway I-25, and 0.7 mi (1.1 km) downstream from Dry Creek.

DRAINAGE AREA.--204 mi^2 (528 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to September 1949, January 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,203.26 ft (1,890.754 m), National Geodetic Vertical Datum of 1929. September 1938 to October 1949, nonrecording gage at same site at datum 0.10 ft (0.030 m) lower.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, municipal use and return flow from irrigation, and sewage-effluent discharge.

AVERAGE DISCHARGE.--16 years (water years 1939-49, 1977-81), 24.0 ft^3/s (0.680 m^3/s), 17,390 acre-ft/yr (21.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,750 ft^3/s (106 m^3/s) Aug. 5, 1981, gage height, 7.48 ft (2.280 m), from rating curve extended above 100 ft^3/s (2.8 m^3/s), on basis of slope-area measurement of peak flow; no flow July 24, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 30, 1935 reached a stage of about 14 ft (4.3 m) present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,750 ft^3/s (106 m^3/s) at 2300 Aug. 5, gage height, 7.48 ft (2.280 m), from floodmark, from rating curve extended above 100 ft^3/s (2.8 m^3/s), on basis of slope-area measurements of peak flow; minimum daily, 3.4 ft^3/s (0.096 m^3/s) July 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	10	14	13	11	14	33	20	34	15	12	17
2	7.7	9.4	15	12	18	15	33	17	43	9.2	17	15
3	8.7	11	13	11	15	14	31	16	47	11	116	16
4	7.8	12	15	12	14	13	30	19	46	9.0	31	16
5	6.0	11	15	11	17	15	30	21	34	7.0	184	14
6	6.2	10	15	13	14	16	30	21	27	4.9	160	13
7	6.7	9.8	13	13	12	16	30	19	25	4.2	35	13
8	7.0	9.7	14	14	11	15	30	19	24	5.3	32	15
9	7.2	11	12	14	11	15	32	20	19	6.0	60	14
10	8.1	12	12	13	12	15	34	20	23	5.4	58	15
11	8.3	12	13	13	12	16	35	24	20	5.4	44	16
12	6.8	12	13	12	12	19	35	23	16	6.5	80	15
13	7.0	14	12	13	12	20	35	29	9.5	7.8	65	16
14	6.1	14	13	14	11	21	36	29	10	9.0	55	15
15	7.2	11	14	14	9.0	22	36	24	12	7.8	50	20
16	6.8	11	14	12	8.8	21	34	27	13	8.7	50	19
17	7.1	12	12	14	8.4	21	30	38	11	9.5	44	14
18	6.6	11	12	15	8.8	21	21	48	9.0	13	37	13
19	8.0	13	11	15	8.8	22	28	46	10	7.8	29	13
20	6.9	12	11	15	8.8	24	31	37	11	5.0	23	13
21	6.7	12	14	14	8.9	25	28	35	11	3.7	23	12
22	7.6	11	14	15	10	25	24	37	9.8	3.4	66	12
23	10	12	14	15	11	24	21	38	8.1	3.4	36	13
24	8.8	14	12	13	11	24	20	37	8.0	19	31	11
25	8.5	12	12	12	10	27	18	38	7.6	13	26	11
26	8.6	14	13	12	10	25	16	37	6.6	21	25	10
27	9.4	14	14	13	11	25	13	35	6.0	18	22	10
28	9.8	14	10	13	12	25	16	37	11	19	19	11
29	9.4	14	11	13	---	25	19	35	11	17	17	12
30	9.2	14	13	14	---	27	18	36	11	11	17	13
31	9.6	---	13	14	---	29	---	35	---	11	18	---
TOTAL	241.8	358.9	403	411	318.5	636	827	917	533.6	297.0	1482	417
MEAN	7.80	12.0	13.0	13.3	11.4	20.5	27.6	29.6	17.8	9.58	47.8	13.9
MAX	10	14	15	15	18	29	36	48	47	21	184	20
MIN	6.0	9.4	10	11	8.4	13	13	16	6.0	3.4	12	10
AC-FT	480	712	799	815	632	1260	1640	1820	1060	589	2940	827

CAL YR 1980 TOTAL 13825.2 MEAN 37.8 MAX 437 MIN 2.3 AC-FT 27420
WTR YR 1981 TOTAL 6842.8 MEAN 18.7 MAX 184 MIN 3.4 AC-FT 13570

07104000 MONUMENT CREEK AT PIKEVIEW, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	SPECIFIC CONDUCTANCE LAB (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
FEB 12...	1215	7.7	430	436	8.0	.0	11.0	1.5	160	52
MAR 17...	1010	21	340	364	7.6	6.0	9.8	5.4	120	39
APR 16...	1130	32	--	251	7.6	16.0	8.1	5.4	91	29
MAY 20...	1150	38	--	233	7.0	12.5	8.4	4.2	82	26
JUN 16...	0945	13	288	288	7.9	15.0	7.5	<2.4	110	34
JUL 14...	1130	7.6	369	366	7.4	23.0	6.6	2.3	140	45
AUG 18...	0955	76	269	271	7.1	17.0	7.7	<4.0	93	30
SEP 15...	0915	17	--	373	7.5	14.5	8.1	2.8	140	45

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	ALKALINITY LAB (MG/L AS CACO3)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
FEB 12...	8.0	90	43	2.1	.060	.72	.78	2.9	.120
MAR 17...	5.7	69	102	2.0	1.20	1.1	2.30	4.3	.690
APR 16...	4.4	57	135	.77	.090	.19	.28	1.1	.220
MAY 20...	4.1	58	24	.86	.230	1.1	1.30	2.2	.230
JUN 16...	4.9	--	1600	1.0	.170	.56	.73	1.7	.400
JUL 14...	6.5	110	105	.98	.070	.73	.80	1.8	.170
AUG 18...	4.5	59	242	.87	.090	1.1	1.20	2.1	.410
SEP 15...	6.4	94	214	.98	.230	1.2	1.40	2.4	.240

07104000 MONUMENT CREEK AT PIKEVIEW, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
FEB 12...	1215	0	0	1	7	1100	40
MAR 17...	1010	0	0	0	13	2300	30
APR 16...	1130	2	0	0	11	2800	90
MAY 20...	1150	1	20	0	10	3400	80
JUN 16...	0945	0	10	0	6	1600	40
JUL 14...	1130	0	0	0	7	1900	40
AUG 18...	0955	1	10	0	14	4900	25
SEP 15...	0915	0	0	0	12	5500	10

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
FEH 12...	6	50	20	.0	3	0	20
MAR 17...	9	90	20	.1	2	0	30
APR 16...	3	130	20	.1	1	0	50
MAY 20...	11	170	10	.1	1	<0	30
JUN 16...	7	60	8	.1	1	0	30
JUL 14...	6	60	6	.1	1	0	30
AUG 18...	14	170	9	.5	1	0	50
SEP 15...	35	160	26	.1	2	0	30

07104500 TEMPLETON GAP FLOODWAY AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°53'17", long 104°49'01", in SE¼ sec.30, T.13 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank 75 ft (23 m) upstream from head of concrete flume, 400 ft (120 m) upstream from bridge on U.S. Highways 85 and 87, and 0.8 mi (1.3 km) north of Colorado Springs.

DRAINAGE AREA.--8.73 mi² (22.61 km²).

PERIOD OF RECORD.--July 1951 to October 1981 (discontinued).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,200 ft (1,890 m), from topographic map.

REMARKS.--Records fair except those below 10 ft³/s (0.28 m³/s), which are poor. This is an artificial channel constructed to divert flood flows from normally dry channels around Colorado Springs during periods of heavy rainfall.

AVERAGE DISCHARGE.--30 years, 0.44 ft³/s (0.012 m³/s), 319 acre-ft/yr (393,000 m³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,130 ft³/s (32.0 m³/s) July 2, 1980, gage height, 3.58 ft (1.091 m), from rating curve based on computation of flow at critical depth at gage heights 1.3, 1.4, 1.8, and 3.0 ft (0.40, 0.43, 0.55, and 0.91 m); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 880 ft³/s (24.9 m³/s) at 0030 June 3, gage height, 3.33 ft (1.015 m), from rating curve extended as mentioned above; no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.17	.00	.09	.05	1.6	.25	1.8	.20	.00	.00	.20
2	.00	.17	.00	.09	.00	.09	.25	.13	9.2	.00	.00	.10
3	.00	.17	.00	.09	.08	.08	.25	.12	52	.00	50	.10
4	.00	.17	.00	.09	.08	1.4	.25	.12	.40	.00	.20	.00
5	.00	.17	.00	.09	.02	.13	.25	.11	.20	.00	23	.00
6	.00	.16	.00	.09	.08	.10	.25	.11	.10	.00	40	.00
7	.00	.16	.00	.09	.08	7.0	.25	.10	.00	.00	.20	.00
8	.00	.16	.00	.09	.08	4.7	.20	.10	.00	.00	.15	.00
9	.00	.16	.00	.09	.06	.20	.20	.10	.00	.00	32	.00
10	.00	.15	.00	.09	.09	.08	.20	.10	.00	.00	9.0	.00
11	.00	.15	.00	.09	.09	.05	.20	.10	.00	.00	.15	.00
12	.00	.15	.00	.09	.09	.00	.18	.10	.00	.00	.30	.00
13	.00	.15	.00	.09	.08	.00	.18	.10	.00	.00	.20	.00
14	.00	.10	.00	.09	.07	.00	.18	.10	.00	.00	.15	.00
15	.00	.00	.00	.09	.03	.00	.18	.10	.00	.00	.10	4.0
16	.05	.00	.00	.05	.00	.00	.18	.21	.00	.00	.10	16
17	.07	.00	.00	.00	.00	.00	.18	.11	.00	.00	.10	.10
18	.09	.00	.00	.00	.00	.00	.18	.11	.00	.00	.10	.00
19	.10	.00	.00	.09	.00	.00	.20	.11	.00	.00	.10	.00
20	.12	.00	.00	.09	.00	.00	.18	.11	.00	.00	.10	.00
21	.14	.00	.05	.09	.03	1.8	.18	.10	.00	.00	.10	.00
22	.16	.00	.08	.09	.03	.03	.15	.10	.00	.00	52	.00
23	.17	.00	.08	.09	.00	.00	.15	.19	.00	.00	8.0	.00
24	.17	.00	.05	.09	.00	.59	.15	.11	.00	.00	.50	.00
25	.17	.00	.05	.09	.00	.35	.15	.11	.00	.00	.50	.00
26	.17	.00	.08	.09	.00	.02	.13	.11	.00	.00	.50	.00
27	.17	.00	.09	.09	.00	.04	.13	.10	.00	.00	.30	.00
28	.17	.00	.09	.09	.00	6.7	.13	52	.00	.00	.20	.00
29	.17	.00	.09	.09	---	10	.10	6.5	.00	.00	.20	.00
30	.17	.00	.09	.09	---	.30	.10	.50	.00	.00	.10	.00
31	.17	---	.09	.05	---	.30	---	.20	---	.00	.30	---
TOTAL	2.26	2.19	.84	2.53	1.04	35.56	5.56	63.96	62.10	.00	218.65	20.50
MEAN	.073	.073	.027	.082	.037	1.15	.19	2.06	2.07	.000	7.05	.68
MAX	.17	.17	.09	.09	.09	10	.25	52	52	.00	52	16
MIN	.00	.00	.00	.00	.00	.00	.10	.10	.00	.00	.00	.00
AC-FT	4.5	4.3	1.7	5.0	2.1	71	11	127	123	.00	434	41

CAL YR 1980 TOTAL 530.20 MEAN 1.45 MAX 101 MIN .00 AC-FT 1050
WTR YR 1981 TOTAL 415.19 MEAN 1.14 MAX 52 MIN .00 AC-FT 824

07104905 MONUMENT CREEK AT BIJOU STREET AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°50'14", long 104°49'44", in NW¼NW¼ sec.18, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003 at bridge on Bijou Street in Colorado Springs.

PERIOD OF RECORD.--December 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
FEB 12...	1345	15	660	679	8.0	.0	11.4	2.8	82	2.5	.010
MAR 17...	1145	21	495	490	7.8	7.5	9.3	5.1	244	2.4	.710
APR 16...	1230	29	352	351	8.0	20.0	7.3	4.8	231	.88	.060
MAY 20...	1245	38	326	334	7.3	17.0	7.6	6.0	65	.12	.120
JUN 16...	1130	12	504	497	7.9	20.0	7.4	<4.2	2400	1.2	.240
JUL 14...	1205	10	595	607	7.6	25.5	6.0	2.4	104	.90	.040
AUG 18...	1050	49	301	364	7.5	19.5	7.5	<3.8	390	.94	.070
SEP 15...	1015	16	--	558	8.1	15.5	8.4	4.8	166	.97	.300

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
FEB 12...	.150	0	1	9	2400	7	60	.1	0	30
MAR 17...	.500	0	0	16	7600	15	180	.1	0	60
APR 16...	.180	1	0	12	5500	10	150	.1	0	80
MAY 20...	.210	1	0	14	7700	16	220	.1	0	40
JUN 16...	.600	1	0	9	2400	7	60	.1	0	30
JUL 14...	.180	0	0	10	2600	4	70	.1	<0	20
AUG 18...	.400	1	0	19	9200	16	210	.2	0	80
SEP 15...	.380	0	0	12	4800	36	110	.1	<0	50

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°48'59", long 104°49'20", in NE¼SW¼ sec.19, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank 31 ft (9.4 m) upstream from bridge on Nevada Ave. in Colorado Springs, 100 ft (30 m) downstream from mouth of Cheyenne Creek, and 1.3 mi (2.1 km) downstream from Monument Creek.

DRAINAGE AREA.--392 mi^2 (1,015 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to September 1924, January 1976 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 5,900 ft (1,800 m), from topographic map. Prior to Oct. 1, 1972, nonrecording gage at same site at different datum.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation and municipal use, and return flow from irrigated areas.

AVERAGE DISCHARGE.--5 years, 47.9 ft^3/s (1.357 m^3/s), 34,700 acre-ft/yr (42.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,000 ft^3/s (170 m^3/s) July 29, 1978, gage height, 7.15 ft (2.179 m), from rating curve extended above 2,400 ft^3/s (68.0 m^3/s); minimum daily, 2.0 ft^3/s (0.06 m^3/s) Aug. 19, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,650 ft^3/s (103 m^3/s) at 2300 June 2, gage height, 7.35 ft (2.240 m), from floodmark, from rating curve extended on basis of slope-area measurement of peak flow; minimum daily, 9.0 ft^3/s (0.25 m^3/s) Feb. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	27	27	19	11	33	30	63	45	99	29	138
2	14	23	27	19	22	29	31	35	261	45	38	84
3	12	27	31	17	27	23	33	30	304	61	443	75
4	12	27	31	17	17	24	32	24	122	51	60	77
5	12	25	31	17	18	23	31	29	81	33	152	59
6	15	23	27	17	22	27	31	47	60	29	654	50
7	21	23	27	15	19	33	31	26	55	23	150	70
8	15	22	27	15	23	27	31	19	48	22	74	51
9	15	21	23	15	15	25	31	20	31	21	124	39
10	17	21	21	15	9.0	25	33	19	32	20	202	32
11	17	17	27	15	17	26	35	19	29	20	79	49
12	15	19	25	15	24	23	35	25	29	120	256	54
13	15	23	23	21	25	22	35	27	15	70	111	63
14	17	25	21	19	19	25	35	26	21	53	57	42
15	20	23	25	21	25	24	34	17	27	33	104	27
16	22	23	27	15	23	25	32	24	17	40	131	121
17	23	19	21	19	21	25	31	37	14	35	87	56
18	24	19	19	21	22	29	27	42	13	42	70	45
19	24	19	15	21	18	27	36	48	13	47	70	32
20	26	21	15	15	19	28	36	38	13	31	59	22
21	27	25	25	15	24	27	35	33	13	23	118	27
22	27	27	31	19	24	28	35	35	13	17	208	23
23	27	27	21	23	25	28	33	45	14	25	159	17
24	27	23	15	21	20	27	31	48	14	86	101	48
25	25	23	33	15	18	27	31	40	17	48	65	38
26	25	23	35	15	19	28	28	54	13	84	67	20
27	25	25	29	19	16	30	26	38	13	67	67	20
28	27	31	26	27	16	34	33	174	30	48	73	19
29	25	27	23	23	---	30	35	50	31	64	53	15
30	25	29	23	24	---	30	30	47	25	35	52	15
31	27	---	21	25	---	30	---	42	---	31	176	---
TOTAL	636	707	772	574	558.0	842	967	1221	1413	1423	4089	1428
MEAN	20.5	23.6	24.9	18.5	19.9	27.2	32.2	39.4	47.1	45.9	132	47.6
MAX	27	31	35	27	27	34	36	174	304	120	654	138
MIN	12	17	15	15	9.0	22	26	17	13	17	29	15
AC-FT	1260	1400	1530	1140	1110	1670	1920	2420	2800	2820	8110	2830

CAL YR 1980 TOTAL 40411.0 MEAN 110 MAX 1810 MIN 7.0 AC-FT 80160
WTR YR 1981 TOTAL 14630.0 MEAN 40.1 MAX 654 MIN 9.0 AC-FT 29020

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
FEB 12...	1430	45	740	738	7.8	2.5	10.9	3.2	260	72
MAR 17...	1500	29	635	615	7.8	10.0	9.2	3.8	210	59
APR 20...	1320	37	466	446	8.0	17.5	8.3	4.2	150	45
MAY 21...	1115	39	464	440	7.7	16.0	7.8	4.8	150	45
JUN 17...	1015	17	711	702	7.8	18.0	7.9	7.0	250	69
JUL 15...	1050	14	783	783	7.3	24.5	6.4	--	290	80
AUG 19...	1045	113	--	289	7.3	20.0	7.4	<3.8	98	29
SEP 16...	0900	95	--	440	7.4	12.5	8.1	7.0	150	45

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	ALKA-LINITY LAB (MG/L AS CACO3)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
FEB 12...	19	140	22	233	2.4	.060	.93	.99	3.4	.210
MAR 17...	15	110	21	200	2.5	.510	1.1	1.60	4.1	.480
APR 20...	10	87	20	252	1.2	.090	1.3	1.40	2.6	.470
MAY 21...	10	150	42	119	1.2	.280	1.8	2.10	3.3	.320
JUN 17...	20	130	18	1600	1.3	.300	.68	.98	2.3	.400
JUL 15...	22	150	24	67	1.5	.160	1.0	1.20	2.7	.140
AUG 19...	6.3	25	11	232	.70	<.060	1.1	1.10	1.8	.250
SEP 16...	10	91	13	886	1.0	.520	2.2	2.70	3.7	.570

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)
FEB 12...	1430	0	0	2	16	6800	70	21
MAR 17...	1500	0	0	0	13	5800	10	15
APR 20...	1320	0	0	0	17	6800	20	7
MAY 21...	1115	1	10	0	15	7500	30	9
JUN 17...	1015	0	10	0	10	1600	10	15
JUL 15...	1050	1	0	0	13	2700	20	6
AUG 19...	1045	1	20	0	15	7200	20	29
SEP 16...	0900	0	0	0	36	31000	23	74

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
FEB 12...	0	300	110	.1	7	0	100
MAR 17...	--	250	110	.1	4	0	70
APR 20...	--	240	50	.1	3	0	140
MAY 21...	--	280	60	.1	2	0	70
JUN 17...	--	320	270	.1	3	0	70
JUL 15...	--	390	290	.1	3	0	80
AUG 19...	--	230	21	.2	1	<0	90
SEP 16...	--	850	150	.1	3	0	310

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD BELOW COLORADO SPRINGS, CO

LOCATION.--Lat 38°48'11", long 104°47'43", in NE¼SE¼ sec.29, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, approximately 200 ft (61 m) downstream from Janitell Road below Colorado Springs.

PERIOD OF RECORD.--April 1975 to June 1976, May 1979 to September 1979, December 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
FEB 17...	1030	70	860	883	7.5	11.0	8.5	18	190	49
MAR 18...	0955	84	770	771	7.4	10.0	8.7	14	190	51
APR 20...	1415	75	--	746	7.4	17.0	7.5	17	180	46
MAY 21...	1215	64	--	716	7.1	18.0	7.1	14	180	48
JUN 17...	1200	68	869	876	7.1	20.0	6.5	>32	200	52
JUL 15...	1215	66	--	853	7.1	24.5	6.0	17	210	54
AUG 19...	1220	143	--	537	7.1	20.0	6.9	<14	140	37
SEP 16...	1020	124	623	649	7.3	14.5	7.9	32	210	59

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	ALKA-LINITY LAB (MG/L AS CACO3)	SOLIDS, RESIDUE AT 105 D 3. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
FEB 17...	17	130	60	1.1	12.0	12	24.0	25	6.50
MAR 18...	15	150	106	1.2	10.0	4.0	14.0	15	5.00
APR 20...	15	140	107	.94	.000	14	14.0	15	4.60
MAY 21...	14	130	144	.98	.000	15	15.0	16	5.00
JUN 17...	18	160	860	.62	.000	14	14.0	15	9.70
JUL 15...	19	160	60	.78	8.90	2.1	11.0	12	3.90
AUG 19...	12	99	179	.62	4.50	2.3	6.80	7.4	1.80
SEP 16...	15	84	896	.91	.610	9.4	10.0	11	3.00

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD BELOW COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)
FEB 17...	0	20	2	19	1900	90	21
MAR 18...	0	10	0	18	3100	50	21
APR 20...	0	10	0	15	2400	30	0
MAY 21...	2	10	0	18	3700	30	13
JUN 17...	0	30	0	17	860	50	19
JUL 15...	1	0	0	12	2700	60	21
AUG 19...	0	20	0	16	5900	32	16
SEP 16...	0	0	0	28	18000	52	37

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
FEB 17...	170	110	.2	0	--	420
MAR 18...	170	90	.1	5	--	120
APR 20...	160	80	.2	5	1	60
MAY 21...	200	80	.1	5	--	90
JUN 17...	180	160	.1	7	--	80
JUL 15...	280	160	.1	0	--	100
AUG 19...	230	56	.2	3	--	70
SEP 16...	720	290	.1	5	--	230

07105535 FOUNTAIN CREEK BELOW CIRCLE DRIVE BELOW COLORADO SPRINGS, CO

LOCATION.--Lat 38°47'46", long 104°47'05", in NW¼NE¼ sec.33, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, approximately 600 ft (183 m) downstream from Circle Drive below Colorado Springs.

PERIOD OF RECORD.--December 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
FEB											
17...	1245	68	898	869	7.4	13.0	8.3	22	57	1.2	12.0
MAR											
18...	1140	91	855	804	7.6	11.0	8.4	13	102	1.2	9.90
APR											
21...	1130	89	753	745	7.3	16.5	7.7	27	113	.99	11.0
MAY											
21...	1330	58	719	708	7.2	20.0	6.8	20	120	1.2	.000
JUN											
17...	1400	59	894	880	7.3	23.0	6.4	59	830	.80	.000
JUL											
15...	1350	60	861	869	7.1	24.5	6.0	27	65	.94	9.10
AUG											
19...	1350	120	583	561	7.2	23.0	6.6	<16	100	.80	5.30
SEP											
16...	1215	115	692	664	7.3	15.0	7.8	K0	592	1.1	6.20

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
FEB										
17...	6.80	0	1	16	1400	6	140	.1	0	80
MAR										
18...	5.00	1	0	17	2500	10	200	.1	0	90
APR										
21...	5.20	0	0	23	3100	12	100	.0	0	30
MAY										
21...	4.40	2	0	17	3800	10	210	.1	0	70
JUN										
17...	8.70	1	0	14	830	17	170	.2	1	60
JUL										
15...	3.80	1	0	11	1700	7	240	.1	0	80
AUG										
19...	1.70	1	0	14	4900	20	230	.2	0	110
SEP										
16...	2.90	0	0	31	20000	58	790	.2	0	250

07105780 B DITCH DRAIN NEAR SECURITY, CO

LOCATION.--Lat 38°45'09", long 104°45'43", in SW¼SE¼ sec.10, T. 15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank, on Fort Carson Military Reservation, 800 ft (244 m) upstream from Interstate 25, 0.7 mi (1.1 km) upstream from mouth, and 1.0 mi (1.6 km) southwest of Security.

DRAINAGE AREA.--Undetermined.

PERIOD OF RECORD.--April to September 1981.

GAGE.--Water-stage recorder. Altitude of gage is 5,724 ft (1,744.7 m), from topographic map.

REMARKS.--Records good. Unknown amounts of flow are introduced to the stream from activities in the containment area of Fort Carson upstream. Several observation of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, for period Apr. 2 to Sept. 30, 1981, 2,700 ft³/s (76.5 m³/s) at 1445 Aug. 15, gage height, 13.78 ft (4.200 m), result of slope-area measurement of peak flow; minimum daily, 0.03 ft³/s (0.001 m³/s) Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	.32	1.0	2.7	.05	1.5
2							.07	.13	.98	1.1	2.0	.18
3							.07	.16	17	.72	.46	.19
4							.06	.13	1.4	.48	.27	.15
5							.08	.11	.99	.32	1.3	.15
6							.07	.11	.69	.33	73	.14
7							.07	.11	.59	.31	.89	.17
8							.07	.10	.59	.33	.53	.12
9							.08	.11	.53	.29	2.6	.14
10							.08	.10	.49	.32	8.5	.15
11							.06	.09	.49	.28	1.4	.12
12							.06	.10	.53	5.6	29	.10
13							.08	.10	.43	1.0	1.9	.12
14							.07	.12	.33	.33	.79	.10
15							.08	.11	.69	.22	207	.10
16							.09	.14	.53	1.3	1.2	.37
17							.10	.14	.49	.22	.41	.15
18							.09	.11	.45	.21	.26	.12
19							.09	.12	.45	.16	.23	.09
20							.10	.10	.43	.11	.21	.12
21							.10	.09	.37	.08	.22	.18
22							.10	.10	.45	.07	.22	.41
23							.11	.12	.43	.10	.19	.12
24							.10	.16	.45	.09	.17	.18
25							.08	.18	.53	.07	.22	.15
26							.09	14	.49	.24	.19	.07
27							.09	.44	.49	.35	.18	.04
28							.10	14	.69	.17	.13	.04
29							.13	1.2	.81	.13	.13	.03
30							.11	1.1	.45	.10	.12	.04
31							---	.99	---	.07	9.5	---
TOTAL							---	34.89	34.24	17.80	343.27	5.54
MEAN							---	1.13	1.14	.57	11.1	.18
MAX							---	14	17	5.6	207	1.5
MIN							---	.09	.33	.07	.05	.03
AC-FT							---	69	68	35	681	11

07105800 FOUNTAIN CREEK AT SECURITY, CO

LOCATION (REVISED).--Lat 38°43'46", long 104°44'00", in SW¼ sec.24, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank on upstream side of Carson Road bridge, 0.9 mi (1.4 km) southwest of South Security School, 3.5 mi (5.6 km) northeast of Fountain, and 5.5 mi (8.8 km) upstream from Jimmy Camp Creek.

DRAINAGE AREA.--495 mi² (1,282 km²).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,640 ft (1,719 m), from topographic map. Prior to Oct. 26, 1966, at site 1,040 ft (320 m) upstream at datum 6.00 ft (1.829 m) higher. Oct. 26, 1966, to July 18, 1972, at site 980 ft (300 m) upstream at datum 6.00 ft (1.829 m) higher, July 19, 1972, to Feb. 20 1980, at site 980 ft (300 m) downstream at datum 6.00 ft (1.829 m) lower.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 5,100 acres (21 km²) and municipal use, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--17 years, 62.1 ft³/s (1.759 m³/s), 44,990 acre-ft/yr (55.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s (708 m³/s) July 24, 1965, gage height, 11.30 ft (3.444 m), site and datum then in use, from floodmarks, from rating curve extended above 2,900 ft³/s (82 m³/s), on basis of slope-area measurement of peak flow; minimum daily, 1.9 ft³/s (0.054 m³/s) Mar. 1, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,640 ft³/s (188 m³/s) at 2400 June 2, gage height, 4.07 ft (1.240 m) from rating curve extended above 4,500 ft³/s (127 m³/s), on basis of slope-area measurement of peak flow; minimum daily, 24 ft³/s (0.68 m³/s) Dec. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	51	42	46	64	82	49	144	69	214	51	178
2	53	59	35	60	59	74	53	78	197	156	54	132
3	55	65	45	71	56	74	63	62	1040	117	547	120
4	50	72	40	65	62	74	62	62	184	54	102	114
5	52	57	37	54	69	76	56	69	145	37	69	102
6	54	54	33	58	64	78	43	121	127	37	945	92
7	45	54	33	66	66	99	38	94	121	30	164	96
8	57	57	28	66	63	94	38	78	115	34	99	92
9	58	47	24	66	60	102	40	67	94	36	174	99
10	50	47	27	63	54	97	46	56	87	44	331	97
11	51	51	29	64	55	97	48	56	80	44	185	98
12	49	53	35	62	65	76	38	56	97	157	518	100
13	48	50	39	60	69	63	42	58	69	85	255	107
14	51	53	41	60	74	58	49	60	62	78	166	93
15	48	42	44	63	71	58	51	62	62	49	521	84
16	52	47	52	57	62	56	42	63	53	56	291	131
17	55	42	54	51	62	62	54	56	46	63	204	88
18	48	47	47	58	60	76	46	54	51	63	166	88
19	54	45	39	57	48	76	54	58	56	65	139	87
20	55	50	44	55	58	69	49	71	49	51	116	78
21	73	49	38	61	63	63	44	58	44	51	157	85
22	67	48	46	59	67	65	71	53	43	43	450	83
23	74	46	36	59	67	63	78	75	42	57	277	76
24	60	48	38	66	71	67	51	73	37	126	161	90
25	58	53	44	59	65	71	46	61	37	69	143	83
26	68	54	50	63	69	60	42	231	30	123	145	76
27	68	47	69	63	69	60	42	70	30	94	136	71
28	70	45	82	64	65	85	49	545	38	56	130	69
29	67	43	65	65	---	89	58	99	38	56	123	69
30	51	45	46	72	---	69	42	571	34	43	122	67
31	48	---	43	72	---	48	---	69	---	46	277	---
TOTAL	1742	1521	1325	1905	1777	2281	1484	3330	3177	2234	7218	2845
MEAN	56.2	50.7	42.7	61.5	63.5	73.6	49.5	107	106	72.1	233	94.8
MAX	74	72	82	72	74	102	78	571	1040	214	945	178
MIN	45	42	24	46	48	48	38	53	30	30	51	67
AC-FT	3460	3020	2630	3780	3520	4520	2940	6610	6300	4430	14320	5640

CAL YR 1980 TOTAL 56405 MEAN 154 MAX 1990 MIN 24 AC-FT 111900
WTR YR 1981 TOTAL 30839 MEAN 84.5 MAX 1040 MIN 24 AC-FT 61170

07105820 CLOVER DITCH DRAIN NEAR WIDEFIELD, CO

LOCATION.--Lat 38°43'07", long 104°43'43", in SW¼NE¼ sec.25, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank 200 ft (61 m) downstream from Fort Carson Military Road No. 1, 500 ft (152 m) upstream from bridge on Interstate 25, 0.2 mi (0.3 km) upstream from mouth, and 1.2 mi (1.9 km) south of Widefield.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--April to September 1981.

GAGE.--Water-stage recorder. Altitude of gage is 5,620 ft (1,713 m), from topographic map.

REMARKS.--Records good except those above 8 ft³/s (0.23 m³/s), which are poor. This station is operated primarily to monitor low flows downstream from Fort Carson sewage-treatment plant. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,780 ft³/s (50.4 m³/s) at 1600 Aug. 15, gage height, 9.39 ft (2.832 m), from rating curve extended above 8 ft³/s (0.23 m³/s); minimum daily, 1.0 ft³/s (0.03 m³/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							4.3	6.0	4.2	12	3.6	3.8
2							3.1	5.0	4.1	5.1	8.4	2.6
3							3.1	4.5	18	2.1	4.5	4.2
4							2.5	4.0	3.9	3.5	2.4	3.7
5							2.9	5.0	3.7	3.7	2.7	3.5
6							3.0	4.5	3.7	3.5	26	3.6
7							3.7	4.0	3.9	3.1	6.6	3.3
8							4.1	4.0	4.3	2.7	3.7	3.4
9							4.2	4.0	4.1	3.1	7.7	3.7
10							4.3	4.0	4.1	3.5	11	3.5
11							4.0	4.0	4.3	3.6	6.0	3.4
12							4.2	4.5	3.7	3.6	43	3.3
13							4.4	4.0	3.1	4.3	5.0	3.3
14							4.4	4.0	3.1	2.6	3.2	3.3
15							4.5	4.0	3.5	3.5	203	3.5
16							4.6	4.0	2.4	5.6	4.9	5.4
17							3.9	4.5	3.5	3.9	3.9	3.3
18							3.2	4.0	3.1	4.4	4.5	3.4
19							3.6	4.5	3.7	3.9	4.1	3.1
20							3.9	4.8	2.9	4.1	3.3	3.1
21							3.7	4.3	3.1	4.2	3.1	3.3
22							4.7	3.3	2.7	4.1	3.0	3.1
23							4.8	3.2	2.9	3.6	2.6	3.1
24							5.1	3.5	3.3	2.8	2.8	3.4
25							4.8	5.6	3.9	2.8	3.8	3.5
26							4.4	12	3.9	3.7	10	3.8
27							4.6	5.4	3.7	5.0	3.7	3.8
28							4.6	29	7.8	4.0	3.1	3.3
29							4.7	5.4	3.3	4.0	2.7	1.4
30							4.4	3.9	2.5	3.9	2.4	1.0
31							---	3.8	---	3.8	7.7	---
TOTAL							121.7	166.7	124.4	123.7	402.4	100.1
MEAN							4.06	5.38	4.15	3.99	13.0	3.34
MAX							5.1	29	18	12	203	5.4
MIN							2.5	3.2	2.4	2.1	2.4	1.0
AC-FT							241	331	247	245	798	199

07105825 FOUNTAIN CREEK BELOW WIDEFIELD, CO

LOCATION.--Lat 38°43'00", long 104°43'24", in SE¼NE¼ sec.25, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, approximately 200 ft (61 m) downstream from the City of Widefield waste-water treatment facility below Widefield.

PERIOD OF RECORD.--December 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
FEB											
17...	1415	87	960	975	7.6	12.0	8.3	--	320	2.3	9.70
MAR											
18...	1330	104	890	867	7.7	13.0	8.2	16	146	2.4	7.20
APR											
21...	1315	88	821	795	7.6	17.0	6.7	--	227	2.2	5.50
MAY											
21...	1630	62	824	845	7.3	21.5	5.5	<61	157	3.1	3.90
JUN											
18...	1030	34	1010	1040	7.8	18.0	6.9	110	64	2.3	.570
JUL											
15...	1520	84	916	938	7.3	29.5	4.5	58	416	2.5	6.60
AUG											
20...	1245	122	682	668	7.1	23.5	5.8	<50	326	2.0	1.90
SEP											
16...	1410	124	745	730	7.3	14.0	7.1	69	1050	2.2	3.60

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
FEB										
17...	5.60	0	1	22	7900	11	320	.1	0	100
MAR										
18...	3.80	1	0	21	5500	16	280	.3	0	100
APR										
21...	3.30	0	1	20	8000	7	400	.1	1	140
MAY										
21...	5.30	1	0	20	4800	22	260	.1	0	60
JUN										
18...	3.60	2	0	13	1500	5	370	.1	0	30
JUL										
15...	2.90	1	0	26	12000	31	470	.2	0	130
AUG										
20...	1.50	0	0	4	12000	84	440	.2	0	130
SEP										
16...	3.00	0	0	48	41000	65	1100	.2	0	330

07105900 JIMMY CAMP CREEK AT FOUNTAIN, CO

LOCATION.--Lat 38°41'04", long 104°41'17", in NW¼SE¼ sec.5, T.16 S., R.65 W., El Paso County, Hydrologic Unit 11020003, on right bank at downstream side of bridge on county road, 1,000 ft (300 m) east of Fountain, and 1.5 mi (2.4 km) upstream from mouth.

DRAINAGE AREA.--65.6 mi² (169.9 km²).

PERIOD OF RECORD.--January 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,530 ft (1,686 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair, and those for period of no gage-height record, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--5 years, 2.24 ft³/s (0.063 m³/s), 1,620 acre-ft/yr (2.00 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,930 ft³/s (54.7 m³/s) Aug. 1, 1976, gage height, 4.14 ft (1.262 m), from floodmarks; minimum daily, 0.20 ft³/s (0.006 m³/s) July 18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,100 ft³/s (31.2 m³/s) at 0200 Aug. 6, gage height, 3.67 ft (1.119 m); minimum daily, 1.0 ft³/s (0.028 m³/s) Sept. 20-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.2	2.6	2.2	1.8	1.9	1.8	3.9	2.8	1.8	2.4	3.5
2	1.9	2.4	2.6	2.3	1.7	1.7	2.1	2.2	2.2	1.6	2.8	1.7
3	2.0	2.6	2.4	2.3	1.7	1.6	2.3	2.1	2.6	2.0	3.4	1.7
4	2.0	2.4	2.4	2.3	1.7	1.4	2.4	2.0	3.6	1.6	7.4	1.5
5	2.2	2.8	2.2	2.5	1.7	1.5	2.2	2.0	2.2	1.5	36	1.5
6	2.0	3.6	2.2	2.5	1.8	1.6	2.1	2.0	2.0	1.5	120	1.3
7	2.0	4.2	2.2	2.5	2.0	1.9	2.1	2.0	1.9	1.5	3.8	1.1
8	2.0	3.4	2.3	2.4	2.0	2.0	2.0	1.7	1.9	1.5	2.7	1.1
9	1.9	2.6	2.2	2.3	2.3	1.9	1.7	1.7	1.9	1.5	2.7	1.3
10	1.9	2.4	2.3	2.2	2.3	1.7	1.7	1.7	1.7	1.4	2.9	1.4
11	1.7	2.4	2.4	2.3	2.4	1.7	1.8	1.8	1.7	1.4	3.0	1.4
12	2.0	2.6	2.3	2.3	2.4	1.7	1.8	1.8	1.7	1.5	8.9	1.3
13	2.2	2.6	2.3	2.4	2.4	1.9	1.7	1.9	1.7	2.0	3.8	1.4
14	2.2	2.4	2.3	2.6	2.4	1.7	1.7	2.0	1.8	1.6	3.3	1.2
15	2.0	2.6	2.4	2.2	2.3	1.7	1.7	2.3	1.8	1.4	3.5	1.4
16	1.9	2.4	2.4	2.3	2.4	1.8	1.7	2.4	1.7	1.9	4.3	1.6
17	1.9	2.0	2.4	2.3	2.5	1.7	1.9	2.2	1.7	1.4	4.1	1.4
18	1.7	1.9	2.3	2.3	2.5	1.7	1.9	2.2	1.7	1.5	3.6	1.2
19	1.9	1.9	2.4	2.3	2.5	1.8	2.0	2.4	1.7	1.9	3.3	1.2
20	1.9	1.9	2.3	2.1	2.3	1.7	2.2	2.8	1.7	1.5	3.1	1.0
21	1.9	1.7	2.3	2.0	2.1	1.7	2.2	2.8	1.6	1.9	3.2	1.0
22	1.9	1.7	2.3	2.2	2.1	1.5	2.0	3.1	1.6	2.0	3.4	1.1
23	2.0	1.9	2.1	2.3	2.1	1.5	2.0	3.2	1.6	2.0	3.2	1.2
24	2.0	1.9	2.0	2.0	2.0	1.5	1.7	2.8	1.7	2.0	2.9	1.3
25	2.0	1.7	2.2	1.9	2.0	1.5	1.8	3.1	1.7	2.4	2.9	1.4
26	2.2	1.7	2.3	1.8	2.0	1.5	1.9	3.9	1.5	2.2	15	1.6
27	2.0	1.9	2.3	2.1	2.1	1.5	1.8	3.9	1.5	1.9	12	1.4
28	2.2	1.9	2.4	2.1	2.0	1.8	1.5	25	1.5	1.7	2.9	1.5
29	2.2	2.0	2.3	2.0	---	2.1	1.5	15	1.5	2.2	2.6	1.4
30	2.2	2.2	2.3	1.9	---	2.3	1.6	3.9	1.5	7.1	2.0	1.5
31	2.2	---	2.2	2.0	---	3.7	---	3.4	---	2.4	2.0	---
TOTAL	62.0	69.9	71.6	68.9	59.5	55.2	56.8	113.2	55.7	59.8	277.1	42.6
MEAN	2.00	2.33	2.31	2.22	2.13	1.78	1.89	3.65	1.86	1.93	8.94	1.42
MAX	2.2	4.2	2.6	2.6	2.5	3.7	2.4	25	3.6	7.1	120	3.5
MIN	1.7	1.7	2.0	1.8	1.7	1.4	1.5	1.7	1.5	1.4	2.0	1.0
AC-FT	123	139	142	137	118	109	113	225	110	119	550	84

CAL YR 1980 TOTAL 1144.6 MEAN 3.13 MAX 125 MIN 1.2 AC-FT 2270
WTR YR 1981 TOTAL 992.3 MEAN 2.72 MAX 120 MIN 1.0 AC-FT 1970

NOTE.--NO GAGE-HEIGHT RECORD JUNE 8 TO JULY 16.

07105905 FOUNTAIN CREEK ABOVE LITTLE FOUNTAIN CREEK BELOW FOUNTAIN, CO

LOCATION.--Lat 38°37'50", long 104°40'50", in SW¼NW¼ sec.28, T.16 S., R.65 W., El Paso County, Hydrologic Unit 11020003, approximately 1 mi (1.6 km) upstream from mouth of Little Fountain Creek below Fountain.

PERIOD OF RECORD.--April 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
FEB 17...	1530	61	1300	1230	7.5	11.0	7.9	29	330	86
MAR 18...	1510	33	--	1380	7.6	12.0	7.8	9.0	420	110
APR 17...	0915	20	1620	1530	7.4	13.5	8.0	29	240	27
MAY 20...	1420	16	--	1990	6.6	18.0	6.7	6.6	710	190
JUN 18...	1230	17	--	1700	7.1	21.0	6.4	16	570	150
JUL 16...	1145	35	--	1340	6.9	23.5	5.4	27	420	110
AUG 18...	1410	157	900	871	7.0	25.0	5.8	<11	260	66
SEP 15...	1315	27	--	1330	7.0	22.5	5.8	13	410	105

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	ALKA-LINITY LAB (MG/L AS CACO3)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
FEB 17...	29	160	92	3.2	6.10	2.8	8.90	12	4.60
MAR 18...	35	180	22	3.6	3.60	3.9	7.50	11	2.20
APR 17...	41	200	54	4.1	2.20	1.1	3.30	7.4	2.60
MAY 20...	58	270	141	.34	.130	1.1	1.20	1.5	.470
JUN 18...	47	220	27	4.5	.960	1.6	2.60	7.1	1.30
JUL 16...	36	170	330	3.2	2.50	2.0	4.50	7.7	2.30
AUG 18...	22	120	366	2.5	.720	2.1	2.80	5.3	1.40
SEP 15...	36	190	77	5.7	1.50	.80	2.30	8.0	1.40

07105905 FOUNTAIN CREEK ABOVE LITTLE FOUNTAIN CREEK BELOW FOUNTAIN, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)
FEB 17...	0	10	1	13	2900	60	4
MAR 18...	1	10	0	29	530	30	33
APR 17...	0	10	0	10	1400	20	3
MAY 20...	0	20	0	8	720	20	6
JUN 18...	2	10	0	6	650	30	2
JUL 16...	0	0	0	20	8400	20	31
AUG 18...	1	10	0	23	13000	<10	22
SEP 15...	0	0	0	9	2500	10	12

DATE	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
FEB 17...	360	290	.0	7	--	0	60
MAR 18...	910	270	.1	8	--	0	290
APR 17...	290	250	.1	8	0	0	40
MAY 20...	120	110	.1	13	--	<0	20
JUN 18...	270	270	.2	8	--	0	20
JUL 16...	470	240	.2	6	--	0	90
AUG 18...	350	27	.2	4	--	0	90
SEP 15...	410	350	.1	6	--	0	50

07105920 LITTLE FOUNTAIN CREEK ABOVE KEATON RESERVOIR NEAR FORT CARSON, CO

LOCATION.--Lat 38°40'54", long 104°51'29", in NE¼SW¼ sec.2, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.1 mi (0.2 km), 0.7 mi (1.1 km) upstream from State Highway 115, and 4.8 mi (7.7 km) southwest of Fort Carson.

DRAINAGE AREA.--11.0 mi² (28.5 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

REVISED RECORDS.--WDR CO-80-1: 1979.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 6,430 ft (1,960 m), from topographic map.

REMARKS.--Records good except those above 70 ft³/s (1.98 m³/s), which are fair, and those for periods of no gage-height record, which are poor. No diversions above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 513 ft³/s (14.5 m³/s) June 3, 1981, gage height, 3.72 ft (1.134 m), from floodmark, from rating curve extended above 70 ft³/s (1.98 m³/s), on basis of slope-area measurement of peak flow; no flow Aug. 22-28, Sept. 8-24, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10 ft³/s (0.28 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 3	0100	*513	14.5	3.72	1.134	Aug. 6	0500	14	0.40	1.09	0.332
July 14	0645	18	0.51	1.19	0.363	Aug. 12	2100	26	0.74	1.43	0.436
July 16	1730	16	0.45	1.11	0.338	Aug. 22	1745	12	0.34	1.01	0.308

Minimum daily discharge, 0.36 ft³/s (0.010 m³/s) many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.48	.79	.70	.50	.36	.36	.74	.51	4.0	1.6	3.4	8.0
2	.48	.54	.70	.45	.36	.40	.74	.52	3.8	3.3	2.8	6.6
3	.48	.53	.70	.61	.36	.45	.89	.59	100	3.9	5.1	6.6
4	.47	.53	.70	.86	.36	.50	.74	.56	70	3.2	4.0	6.6
5	.48	.52	.70	.80	.36	.45	.75	.53	50	2.7	3.7	6.3
6	.48	.51	.60	.89	.36	.43	.58	.95	40	1.9	8.9	6.0
7	.49	.49	.60	1.0	.36	.45	.78	.57	30	1.5	8.0	6.3
8	.46	.46	.65	.90	.36	.43	.90	.52	25	1.5	8.2	5.9
9	.48	.46	.70	.80	.36	.43	.74	.55	20	1.4	8.6	5.5
10	.48	.46	.70	.70	.36	.38	1.1	.54	15	2.2	11	5.4
11	.48	.46	.70	.60	.36	.38	1.1	.52	12	4.6	15	5.6
12	.49	.46	.70	.60	.36	.38	1.0	.51	11	4.3	22	5.7
13	.48	.46	.70	.60	.36	.36	.93	.55	9.0	4.1	24	6.0
14	.47	.45	.70	.60	.36	.36	.75	.53	7.8	10	21	5.8
15	.50	.40	.70	.55	.36	.36	.94	.51	6.5	11	20	5.4
16	.50	.40	.70	.50	.36	.47	.81	.50	5.8	14	18	5.9
17	.51	.40	.70	.40	.36	.60	.88	1.1	4.6	14	17	5.5
18	.65	.40	.60	.45	.36	.55	.93	.96	3.9	12	15	5.2
19	.67	.45	.47	.50	.36	.55	.75	.79	3.3	11	13	4.8
20	.50	.50	.46	.50	.36	.56	.87	.86	2.4	9.8	12	4.7
21	.51	.50	.46	.50	.36	.56	.65	.66	1.8	9.2	11	4.6
22	.51	.50	.50	.50	.36	.55	.65	.57	1.3	8.6	11	4.2
23	.51	.45	.60	.50	.36	.54	.64	.63	.96	8.2	10	4.0
24	.53	.40	.70	.50	.36	.54	.60	1.1	.80	7.2	9.1	4.0
25	.53	.40	.70	.50	.36	.55	.56	1.7	.73	6.6	8.2	3.9
26	.53	.40	.70	.45	.36	.63	.53	1.7	.66	6.6	7.7	3.4
27	.53	.40	.70	.40	.36	.74	.51	1.6	.64	6.5	7.7	3.2
28	.53	.45	.70	.40	.36	.75	.53	1.6	.80	5.4	7.1	3.1
29	.53	.50	.70	.36	---	.77	.50	1.6	2.2	4.8	6.6	2.9
30	.54	.60	.70	.36	---	.81	.51	1.9	1.4	4.0	5.9	2.7
31	.54	---	.70	.36	---	.82	---	2.3	---	3.9	6.3	---
TOTAL	15.82	14.27	20.34	17.64	10.08	16.11	22.60	28.03	435.39	189.0	331.3	153.8
MEAN	.51	.48	.66	.57	.36	.52	.75	.90	14.5	6.10	10.7	5.13
MAX	.67	.79	.70	1.0	.36	.82	1.1	2.3	100	14	24	8.0
MIN	.46	.40	.46	.36	.36	.36	.50	.50	.64	1.4	2.8	2.7
AC-FT	31	28	40	35	20	32	45	56	864	375	657	305

CAL YR 1980 TOTAL 2960.15 MEAN 8.09 MAX 135 MIN .40 AC-FT 5870
WTR YR 1981 TOTAL 1254.38 MEAN 3.44 MAX 100 MIN .36 AC-FT 2490

NOTE.--NO GAGE-HEIGHT RECORD NOV. 14 TO DEC. 31, JAN. 8 TO MAR. 19, JUNE 3-10.

07105920 LITTLE FOUNTAIN CREEK ABOVE KEATON RESERVOIR NEAR FORT CARSON, CO--Continued

WATER-QUALITY RECORD.

PERIOD OF RECORD.--May 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	SPECIFIC CONDUCTANCE LAB (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
JUL									
13...	1400	4.1	88	93	7.3	18.0	7.2	<1.9	--
SEP									
03...	1315	6.6	--	89	7.1	12.9	7.6	.3	K6
29...	1300	3.0	--	93	7.0	13.0	8.1	.0	--

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)
JUL									
13...	--	33	10	2.0	4.7	.4	1.6	30	15
SEP									
03...	810	32	9.5	1.9	3.9	.3	1.4	32	<5.0
29...	--	32	9.6	2.0	4.4	.4	1.0	27	<5.0

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)
JUL									
13...	.9	2.6	14	69	.09	.76	12	.04	.030
SEP									
03...	1.2	2.9	14	59	.08	1.0	1	.01	.010
29...	.5	2.9	15	57	.08	.46	6	.11	.010

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
JUL										
13...	900	1	0	0	210	0	20	3	2000	70
SEP										
03...	--	--	--	--	--	--	--	--	--	48
29...	--	--	--	--	--	--	--	--	--	44

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
JUL									
13...	0	50	4	.1	42	1	0	0	20
SEP									
03...	--	--	5	--	--	--	--	--	--
29...	--	--	3	--	--	--	--	--	--

07105924 WOMACK DITCH NEAR FORT CARSON, CO

LOCATION.--Lat 38°40'52", long 104°51'20", in NW¼SE¼ sec.2, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left side of diversion pipe, 300 ft (91 m) downstream from Keaton Reservoir, 0.5 mi (0.8 km) upstream from State Highway 115, and 4.7 m (7.6 km) southwest of Fort Carson.

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 6,400 ft (1,951 m), from topographic map.

REMARKS.--Records good. Gage is on controlled pipe diversion from Keaton Reservoir, which delivers appropriated water rights to Fort Carson and the City of Fountain. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4.8 ft^3/s (0.14 m^3/s) June 3, 4, 9-15, 1979; no flow Mar. 21-24, Sept. 7, 8, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3.7 ft^3/s (0.10 m^3/s) June 3, 4; minimum daily discharge, 0.19 ft^3/s (0.005 m^3/s) Feb. 28-Mar. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.69	.64	.60	.64	.55	.19	.45	.73	2.8	1.4	1.8	1.9
2	.68	.64	.60	.64	.55	.19	.45	.72	3.5	1.4	1.9	1.8
3	.68	.64	.60	.64	.55	.19	.45	.72	3.7	1.4	1.9	1.8
4	.68	.64	.63	.64	.55	.19	.45	.44	3.7	1.3	1.9	1.8
5	.68	.64	.63	.64	.55	.19	.45	.22	3.6	1.3	1.9	1.9
6	.68	.64	.62	.64	.55	.19	.45	.22	3.6	1.3	1.9	1.9
7	.68	.64	.60	.64	.55	.19	.45	1.1	3.6	1.3	1.9	1.9
8	.68	.64	.60	.64	.55	.19	.45	1.1	3.6	1.5	1.9	1.8
9	.68	.64	.60	.64	.55	.35	.45	.72	3.6	1.9	1.9	1.9
10	.68	.64	.60	.64	.55	.45	.45	.72	3.6	1.9	1.9	1.9
11	.68	.64	.62	.64	.55	.45	.45	.72	3.6	1.8	1.9	1.8
12	.68	.64	.63	.64	.55	.45	.45	.72	3.6	1.8	1.9	1.8
13	.68	.64	.62	.64	.54	.45	.45	.72	3.6	1.9	1.9	1.8
14	.68	.64	.62	.64	.55	.45	.45	.71	3.5	1.9	1.9	1.8
15	.68	.64	.64	.64	.55	.45	.45	.72	3.5	1.9	1.9	1.8
16	.68	.64	.64	.64	.55	.45	.45	.71	3.5	1.9	1.9	1.8
17	.68	.64	.64	.63	.55	.45	.45	.70	3.5	1.9	1.9	1.8
18	.68	.64	.64	.63	.55	.45	.45	.71	3.5	1.9	1.9	1.8
19	.68	.64	.64	.64	.55	.45	.45	.71	3.4	1.9	1.9	1.8
20	.68	.64	.64	.64	.55	.45	.44	.72	3.4	1.9	1.9	1.8
21	.68	.64	.64	.64	.55	.45	.44	.72	3.5	1.9	1.9	1.8
22	.68	.64	.64	.64	.55	.45	.44	.72	3.4	1.9	1.9	1.8
23	.64	.64	.64	.64	.55	.45	.44	.72	3.4	1.9	1.9	1.8
24	.64	.60	.64	.64	.55	.45	.48	.71	3.4	1.9	1.9	1.8
25	.64	.60	.64	.60	.55	.45	.48	.72	3.4	1.9	1.9	1.7
26	.64	.60	.64	.60	.55	.45	.48	1.3	2.1	1.8	1.9	1.7
27	.64	.60	.64	.59	.33	.45	.48	1.7	1.4	1.8	1.9	1.7
28	.64	.60	.64	.59	.19	.45	.78	1.7	1.4	1.9	1.8	1.7
29	.64	.60	.64	.57	---	.45	.74	1.6	1.4	1.9	1.8	1.7
30	.64	.60	.64	.55	---	.45	.73	1.6	1.4	1.8	1.8	1.7
31	.64	---	.64	.55	---	.45	---	1.6	---	1.9	1.9	---
TOTAL	20.73	18.92	19.45	19.39	14.81	11.77	14.48	26.92	95.2	54.1	58.5	54.0
MEAN	.67	.63	.63	.63	.53	.38	.48	.87	3.17	1.75	1.89	1.80
MAX	.69	.64	.64	.64	.55	.45	.78	1.7	3.7	1.9	1.9	1.9
MIN	.64	.60	.60	.55	.19	.19	.44	.22	1.4	1.3	1.8	1.7
AC-FT	41	38	39	38	29	23	29	53	189	107	116	107

CAL YR 1980 TOTAL 349.28 MEAN .95 MAX 2.4 MIN .00 AC-FT 693
WTR YR 1981 TOTAL 408.27 MEAN 1.12 MAX 3.7 MIN .19 AC-FT 810

07105928 LITTLE FOUNTAIN CREEK NEAR FORT CARSON, CO

LOCATION.--Lat 38°40'49", long 104°51'08", in SW¼SE¼ sec.2, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.3 mi (0.5 km) downstream from Keaton Reservoir, 0.4 mi (0.6 km) upstream from State Highway 115, 1.2 mi (1.9 km) upstream from Deadman Canyon and 4.8 mi (7.7 km) southwest of Fort Carson.

DRAINAGE AREA.--11.8 km² (30.6 km²).

PERIOD OF RECORD.--May 1978 to current year.

REVISED RECORDS.--WDR CO-80-1: 1979.

GAGE.--Water-stage recorder. Altitude of gage is 6,360 ft (1,939 m), from topographic map.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Womack Ditch diverts about 5 ft³/s (0.14 m³/s) from Keaton Reservoir upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 157 ft³/s (4.45 m³/s) May 8, 1980, gage height, 4.46 ft (1.359 m), from rating curve extended above 70 ft³/s (1.98 m³/s); no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 70 ft³/s (1.98 m³/s) at 0400 June 3, gage height, 3.61 ft (1.100 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.14	.20	.02	.03	.00	.00	.60	.05	1.7	.42	2.5	4.6
2	.15	.12	.03	.03	.00	.01	.52	.04	.79	2.1	2.2	3.5
3	.15	.08	.03	.03	.00	.02	.56	.03	67	3.0	3.6	3.3
4	.11	.05	.02	.03	.00	.06	.49	.03	61	2.6	2.8	3.5
5	.09	.04	.02	.03	.00	.04	.44	.02	52	2.0	2.4	3.1
6	.11	.03	.02	.03	.00	.02	.38	.05	43	1.8	7.3	2.8
7	.11	.03	.03	.03	.00	.04	.43	.07	35	1.4	5.9	3.0
8	.08	.03	.04	.01	.00	.02	.50	.06	26	1.1	5.8	2.7
9	.05	.04	.05	.01	.00	.02	.44	.04	19	.54	.54	2.4
10	.05	.03	.06	.00	.00	.01	.68	.03	15	.24	.24	2.3
11	.05	.03	.06	.00	.00	.01	.68	.03	11	.13	.13	2.5
12	.04	.03	.04	.00	.00	.01	.45	.01	8.0	.11	.11	2.5
13	.03	.04	.03	.00	.00	.00	.30	.01	6.2	1.8	1.8	2.7
14	.03	.04	.04	.00	.00	.00	.23	.02	5.1	2.2	2.2	2.5
15	.04	.05	.04	.00	.00	.00	.24	.01	4.2	1.7	1.7	2.3
16	.04	.04	.04	.00	.00	.00	.22	.00	3.2	8.6	15	2.6
17	.07	.04	.04	.00	.00	.01	.23	.00	2.4	9.1	15	2.5
18	.12	.04	.04	.00	.00	.14	.25	.00	1.9	13	14	2.4
19	.13	.03	.04	.00	.00	.29	.20	.00	1.4	13	13	2.1
20	.04	.03	.04	.00	.00	.32	.22	.02	.89	12	12	1.8
21	.03	.02	.04	.00	.00	.37	.18	.03	.58	9.8	12	1.8
22	.03	.02	.04	.00	.00	.32	.18	.03	.21	8.2	11	1.9
23	.03	.03	.04	.00	.00	.29	.19	.03	.13	7.5	10	1.5
24	.04	.05	.03	.00	.00	.30	.11	.03	.07	6.6	8.4	1.4
25	.04	.06	.03	.00	.00	.27	.07	.07	.07	5.4	7.4	1.5
26	.04	.06	.03	.00	.00	.27	.07	.74	.06	5.0	6.7	1.3
27	.04	.04	.03	.00	.00	.36	.07	.19	.05	5.2	7.2	1.2
28	.04	.04	.03	.00	.00	.58	.07	.13	.11	4.4	5.2	.99
29	.04	.03	.03	.00	---	.56	.07	.07	.74	3.5	4.4	.77
30	.04	.03	.03	.00	---	.58	.05	.03	.62	3.1	3.4	.71
31	.05	---	.03	.00	---	.61	---	.33	---	2.6	3.1	---
TOTAL	2.05	1.40	1.09	.23	.00	5.53	9.12	2.20	367.42	138.14	187.02	68.17
MEAN	.066	.047	.035	.007	.000	.18	.30	.071	12.2	4.46	6.03	2.27
MAX	.15	.20	.06	.03	.00	.61	.68	.74	67	13	15	4.6
MIN	.03	.02	.02	.00	.00	.00	.05	.00	.05	.11	.11	.71
AC-FT	4.1	2.8	2.2	.5	.00	11	18	4.4	729	274	371	135

CAL YR 1980 TOTAL 2503.21 MEAN 6.84 MAX 135 MIN .00 AC-FT 4970
WTR YR 1981 TOTAL 782.37 MEAN 2.14 MAX 67 MIN .00 AC-FT 1550

NOTE.--NO GAGE-HEIGHT RECORD NOV. 11 TO DEC. 11.

07105940 LITTLE FOUNTAIN CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°38'33", long 104°44'49", in NE¼SW¼ sec.23, T.16 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on Fort Carson Military Reservation, on right bank 300 ft (91 m) downstream from Military Road No. 1, 0.4 mi (0.6 km) upstream from mouth of Rock Creek, 3.8 mi (6.1 km) southwest of Fountain.

DRAINAGE AREA.--26.9 mi^2 (69.7 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,560 ft (1,695 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair, and those above 60 ft^3/s (1.70 m^3/s), which are poor. Diversions above station for irrigation, recreation, and municipal use, amount unknown.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,230 ft^3/s (348 m^3/s) May 8, 1980, gage height, 7.55 ft (2.301 m) from rating curve extended above 260 ft^3/s (7.36 m^3/s); no flow many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 408 ft^3/s (11.6 m^3/s) at 0230 Aug. 6, gage height, 5.49 ft (1.673 m), from rating curve extended above 260 ft^3/s (7.36 m^3/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.08	.20	.00	.02	.16	.23	.00	5.3	3.7	.00	9.2
2	.00	.21	.20	.01	.01	.16	.20	.00	3.1	.49	5.3	7.7
3	.00	.20	.20	.01	.03	.21	.15	.00	42	.95	4.0	7.0
4	.00	.19	.15	.01	.08	.08	.12	.00	55	1.7	2.8	6.8
5	.00	.14	.05	.02	.08	.08	.10	.00	48	.23	2.6	6.4
6	.00	.12	.10	.02	.08	.11	.09	.00	36	.07	65	5.6
7	.00	.15	.15	.04	.07	.21	.08	.00	27	.00	6.6	5.4
8	.00	.29	.20	.03	.06	.11	.07	.00	17	.00	5.1	5.7
9	.00	.27	.21	.03	.05	.11	.07	.00	13	.00	5.5	5.2
10	.00	.24	.21	.06	.03	.11	.06	.00	11	.00	7.6	4.6
11	.00	.29	.20	.08	.08	.06	.06	.00	8.5	.00	11	4.8
12	.00	.24	.05	.11	.10	.08	.07	.00	5.7	.00	39	6.6
13	.00	.23	.03	.26	.11	.06	.08	.00	4.2	.00	16	5.6
14	.00	.27	.10	.16	.11	.08	.07	.00	2.8	.00	14	5.5
15	.00	.34	.04	.06	.16	.06	.05	.00	1.9	.00	13	5.0
16	.00	.37	.03	.06	.11	.08	.04	.00	.78	.48	14	4.6
17	.00	.41	.02	.08	.16	.08	.02	.00	.28	3.8	12	3.8
18	.00	.40	.00	.10	.11	.06	.02	.00	.08	10	12	3.2
19	.00	.21	.00	.12	.16	.08	.01	.00	.03	12	10	2.5
20	.00	.15	.00	.12	.16	.11	.01	.00	.01	10	9.0	2.1
21	.00	.20	.00	.11	.16	.06	.02	.00	.00	8.2	8.6	1.8
22	.00	.20	.00	.08	.11	.05	.00	.00	.00	6.8	15	1.6
23	.00	.03	.00	.04	.21	.06	.01	.00	.00	5.7	10	1.5
24	.00	.02	.00	.06	.16	.06	.02	.00	.00	5.7	12	1.1
25	.00	.02	.00	.04	.11	.06	.01	.00	.00	4.3	7.0	1.4
26	.00	.02	.02	.04	.16	.10	.01	.00	.00	3.0	93	1.1
27	.00	.03	.16	.08	.11	.09	.00	.39	.00	4.3	15	.91
28	.00	.05	.01	.04	.11	.17	.00	80	.00	1.2	9.6	.74
29	.00	.10	.00	.02	---	.20	.00	8.2	.00	.77	10	.58
30	.00	.15	.04	.02	---	.24	.00	6.7	.00	.38	6.7	.40
31	.07	---	.02	.02	---	.25	---	5.5	---	.08	6.0	---
TOTAL	.07	5.62	2.39	1.93	2.90	3.43	1.67	100.79	281.68	83.85	447.40	118.43
MEAN	.002	.19	.077	.062	.10	.11	.056	3.25	9.39	2.70	14.4	3.95
MAX	.07	.41	.21	.26	.21	.25	.23	80	55	12	93	9.2
MIN	.00	.02	.00	.00	.01	.05	.00	.00	.00	.00	.00	.40
AC-FT	.1	11	4.7	3.8	5.8	6.8	3.3	200	559	166	887	235

CAL YR 1980 TOTAL 2626.78 MEAN 7.18 MAX 412 MIN .00 AC-FT 5210
WTR YR 1981 TOTAL 1050.16 MEAN 2.88 MAX 93 MIN .00 AC-FT 2080

07105945 ROCK CREEK ABOVE FORT CARSON RESERVATION, CO

LOCATION.--Lat 38°42'27", long 104°50'46", in NW¼NW¼ sec.36, T.15 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 20 ft (6 m) upstream from county road bridge, 0.6 mi (1.0 km) northwest of Rock Creek Park, 1.2 mi (1.9 km) upstream from State Highway 115, and 3.2 mi (5.1 km) southwest of Fort Carson.

DRAINAGE AREA.--6.79 mi^2 (17.6 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,390 ft (1,948 m) from topographic map.

REMARKS.--Records good except those for winter period, which are fair, and those above 30 ft^3/s (0.85 m^3/s), which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 150 ft^3/s (4.25 m^3/s) May 8, 1980, gage height, unknown; no flow many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10 ft^3/s (0.28 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
June 3	0130	*31	0.88	2.34	0.713	Aug. 17	2230	11	0.31	1.73	0.527

Minimum daily discharge, 0.07 ft^3/s (0.002 m^3/s) Apr. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	.26	.30	.38	.27	.29	.47	.08	3.6	1.5	1.1	3.1
2	.14	.26	.30	.38	.27	.30	.48	.24	2.9	6.4	.92	2.1
3	.12	.26	.30	.38	.27	.31	.52	.26	29	2.0	1.7	2.0
4	.11	.26	.31	.37	.30	.27	.48	.20	25	1.4	1.1	1.8
5	.10	.26	.32	.39	.22	.26	.46	.14	20	1.0	.94	1.6
6	.09	.26	.33	.40	.26	.28	.45	1.3	17	.72	1.8	1.5
7	.08	.26	.33	.38	.29	.33	.44	.61	14	.56	1.7	1.5
8	.08	.22	.34	.39	.26	.30	.46	.36	11	.47	1.4	1.3
9	.08	.22	.34	.39	.30	.31	.45	.41	8.5	.34	1.6	1.2
10	.08	.22	.34	.37	.25	.26	.42	.30	7.0	.22	3.2	1.1
11	.08	.22	.34	.40	.23	.25	.40	.25	5.7	.27	4.4	1.1
12	.09	.22	.34	.43	.21	.25	.42	.21	4.5	.89	6.4	1.0
13	.08	.22	.34	.43	.24	.23	.44	.24	3.6	2.2	6.8	.92
14	.08	.20	.35	.38	.30	.23	.43	.17	3.4	1.8	6.2	.77
15	.08	.20	.34	.37	.27	.23	.43	.12	3.4	1.5	5.7	.72
16	.08	.20	.35	.37	.24	.19	.38	.14	2.9	3.3	6.1	.93
17	.08	.20	.34	.36	.21	.22	.39	.70	2.5	3.8	6.1	.95
18	.09	.22	.34	.39	.17	.26	.36	.60	2.2	4.6	6.1	.83
19	.10	.25	.33	.36	.17	.23	.36	.59	1.7	4.4	5.0	.74
20	.12	.25	.30	.35	.20	.24	.35	.41	1.3	3.9	4.3	.67
21	.13	.25	.36	.37	.19	.26	.30	.24	.83	3.4	3.9	.65
22	.15	.25	.33	.35	.23	.24	.29	.16	.66	3.1	3.9	.64
23	.17	.22	.39	.29	.25	.22	.28	.20	.55	2.7	3.5	.61
24	.18	.20	.45	.27	.27	.28	.19	.54	.43	2.6	3.0	.72
25	.20	.20	.58	.30	.27	.28	.16	1.3	.39	2.3	2.6	.74
26	.22	.20	.46	.32	.28	.27	.13	1.2	.22	2.1	2.3	.62
27	.22	.24	.47	.35	.25	.31	.10	.90	.12	2.2	2.5	.62
28	.22	.26	.50	.40	.26	.44	.09	.76	.53	1.8	2.1	.53
29	.23	.28	.50	.36	---	.50	.08	.90	.95	1.5	1.8	.47
30	.24	.30	.47	.36	---	.52	.07	1.3	.70	1.3	1.5	.48
31	.25	---	.45	.30	---	.50	---	2.4	---	1.2	1.8	---
TOTAL	4.14	7.06	11.54	11.34	6.93	9.06	10.28	17.23	174.58	65.47	101.46	31.91
MEAN	.13	.24	.37	.37	.25	.29	.34	.56	5.82	2.11	3.27	1.06
MAX	.25	.30	.58	.43	.30	.52	.52	2.4	29	6.4	6.8	3.1
MIN	.08	.20	.30	.27	.17	.19	.07	.08	.12	.22	.92	.47
AC-FT	8.2	14	23	22	14	18	20	34	346	130	201	63

CAL YR 1980 TOTAL 1678.99 MEAN 4.59 MAX 100 MIN .02 AC-FT 3330
WTR YR 1981 TOTAL 451.00 MEAN 1.24 MAX 29 MIN .07 AC-FT 895

07105950 ROCK CREEK NEAR FORT CARSON, CO

LOCATION.--Lat 38°41'49", long 104°49'39", in SW¼SW¼ sec.31, T.15 S., R.66 W., Hydrologic Unit 11020003, on left bank at Fort Carson Girl Scout Camp, 0.2 mi (0.3 km) downstream from bridge on State Highway 115 and 2.9 mi (4.7 km) southwest of Fort Carson.

DRAINAGE AREA.--7.79 mi^2 (20.2 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,150 ft (1,875 m) from topographic map.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Some diversions above station for irrigation and other uses, amounts unknown.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 164 ft^3/s (4.64 m^3/s) May 8, 1980, from rating curve extended above 50 ft^3/s (1.42 m^3/s); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18 ft^3/s (0.51 m^3/s) at 2215 May 28, gage height, 3.75 ft (1.143 m); no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	3.0	.50	1.2	.57
2	.00	.00	.00	.00	.00	.00	.00	.00	1.0	1.0	1.0	.57
3	.00	.00	.00	.00	.00	.00	.00	.00	30	.30	1.0	.50
4	.00	.00	.00	.00	.00	.00	.00	.00	20	.05	.82	.50
5	.00	.00	.00	.00	.00	.00	.00	.00	16	.02	.60	.45
6	.00	.00	.00	.00	.00	.00	.00	.00	13	.01	.59	.45
7	.00	.00	.00	.00	.00	.00	.00	.00	10	.01	.41	.45
8	.00	.00	.00	.00	.00	.00	.00	.00	7.1	.01	.27	.40
9	.00	.00	.00	.00	.00	.00	.00	.00	4.6	.00	.20	.40
10	.00	.00	.00	.00	.00	.00	.00	.00	2.8	.00	.17	.40
11	.00	.00	.00	.00	.00	.00	.00	.00	1.4	.00	.12	.35
12	.00	.00	.00	.00	.00	.00	.00	.00	.65	.00	.17	.35
13	.00	.00	.00	.00	.00	.00	.00	.00	.40	.00	.44	.30
14	.00	.00	.00	.00	.00	.00	.00	.00	.35	.01	1.3	.22
15	.00	.00	.00	.00	.00	.00	.00	.00	.30	.00	1.4	.16
16	.00	.00	.00	.00	.00	.00	.00	.00	.23	.00	1.8	.13
17	.00	.00	.00	.00	.00	.00	.00	.00	.20	.11	2.2	.07
18	.00	.00	.00	.00	.00	.00	.00	.00	.17	.25	3.2	.05
19	.00	.00	.00	.00	.00	.00	.00	.00	.15	.24	1.9	.03
20	.00	.00	.00	.00	.00	.00	.00	.00	.13	.11	1.4	.02
21	.00	.00	.00	.00	.00	.00	.00	.00	.11	.10	1.1	.01
22	.00	.00	.00	.00	.00	.00	.00	.00	.09	.37	1.0	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.07	1.1	1.0	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.06	1.4	.91	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.05	1.6	.91	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.04	1.7	.91	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.03	1.6	.82	.00
28	.00	.00	.00	.00	.00	.00	.00	8.0	.02	1.5	.73	.00
29	.00	.00	.00	.00	---	.00	.00	16	.50	1.5	.73	.00
30	.00	.00	.00	.00	---	.00	.00	16	.30	1.4	.64	.00
31	.00	---	.00	.00	---	.00	---	2.0	---	1.4	.64	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	42.00	112.75	16.29	29.58	6.38
MEAN	.000	.000	.000	.000	.000	.000	.000	1.35	3.76	.53	.95	.21
MAX	.00	.00	.00	.00	.00	.00	.00	16	30	1.7	3.2	.57
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.12	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	83	224	32	59	13

CAL YR 1980 TOTAL 1568.17 MEAN 4.28 MAX 122 MIN .00 AC-FT 3110
WTR YR 1981 TOTAL 207.00 MEAN .57 MAX 30 MIN .00 AC-FT 411

07105960 ROCK CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°39'16", long 104°44'48", in NE¼SW¼ sec.14, T.16 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank at edge of Military Road No. 1 on Fort Carson Military Reservation, 1.1 mi (1.8 km) upstream from mouth at Little Fountain Creek and 3.2 mi (5.1 km) southwest of Fountain.

DRAINAGE AREA.--16.9 mi² (43.8 km²).

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,600 ft (1,707 m) from topographic map.

REMARKS.--Records good except those above 50 ft³/s (1.42 m³/s) which are poor. Diversions above this station for irrigation and recreation, amounts unknown. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 131 ft³/s (3.71 m³/s) May 8, 1980, gage height, 4.07 ft (1.240 m), from rating curve extended above 50 ft³/s (1.42 m³/s); minimum daily, 0.01 ft³/s (0.001 m³/s) Aug. 31 to Sept. 12, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22 ft³/s (0.62 m³/s) at 0100 June 4, gage height, 2.21 ft (0.674 m); minimum daily, 0.09 ft³/s (0.002 m³/s) July 21, Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.36	.45	.40	.36	.36	.32	.40	.27	.35	.15	.10	.35
2	.36	.45	.40	.36	.36	.32	.35	.28	.34	.15	.10	.35
3	.36	.45	.40	.36	.36	.32	.35	.26	9.4	.16	.10	.36
4	.37	.45	.40	.36	.32	.32	.35	.24	18	.15	.09	.36
5	.39	.45	.40	.36	.32	.32	.35	.24	14	.13	.59	.33
6	.40	.50	.36	.36	.32	.32	.35	.24	11	.13	.81	.34
7	.40	.50	.36	.36	.32	.32	.35	.25	8.7	.13	.23	.34
8	.40	.50	.36	.36	.32	.32	.33	.29	6.0	.12	.21	.31
9	.40	.55	.36	.36	.36	.32	.33	.28	3.2	.12	.24	.32
10	.40	.55	.36	.36	.34	.32	.33	.29	.83	.12	.29	.28
11	.44	.50	.36	.36	.32	.32	.32	.29	.32	.11	.28	.27
12	.40	.50	.36	.36	.32	.32	.32	.28	.21	.11	2.5	.29
13	.40	.50	.36	.36	.32	.32	.32	.29	.18	.14	.41	.24
14	.40	.50	.36	.36	.32	.32	.31	.29	.18	.12	.36	.21
15	.40	.50	.36	.36	.32	.32	.31	.28	.18	.11	.38	.24
16	.40	.50	.36	.36	.32	.32	.31	.29	.18	.11	.39	.24
17	.40	.50	.36	.32	.32	.32	.28	.30	.16	.12	.38	.21
18	.40	.50	.36	.32	.32	.32	.28	.28	.15	.13	.37	.18
19	.40	.50	.36	.32	.32	.32	.28	.30	.15	.12	.36	.15
20	.40	.50	.36	.32	.32	.32	.28	.31	.15	.10	.37	.15
21	.40	.50	.36	.32	.32	.32	.28	.30	.14	.09	.38	.14
22	.36	.45	.36	.32	.32	.32	.28	.30	.14	.10	.41	.12
23	.40	.45	.36	.32	.32	.32	.28	.29	.14	.11	.37	.12
24	.40	.45	.36	.32	.32	.32	.28	.31	.14	.10	.38	.14
25	.40	.45	.36	.32	.32	.32	.28	.31	.13	.12	.34	.13
26	.43	.45	.36	.32	.32	.32	.28	.32	.13	.12	.52	.13
27	.45	.45	.36	.32	.32	.32	.28	.37	.13	.13	.41	.13
28	.45	.40	.36	.32	.32	.40	.27	1.8	.13	.12	.38	.14
29	.45	.40	.36	.32	---	.45	.28	.37	.14	.10	.34	.14
30	.45	.40	.36	.36	---	.45	.28	.36	.15	.10	.34	.15
31	.50	---	.36	.36	---	.45	---	.36	---	.10	.35	---
TOTAL	12.57	14.25	11.36	10.64	9.14	10.39	9.29	10.64	75.05	3.72	12.78	6.86
MEAN	.41	.48	.37	.34	.33	.34	.31	.34	2.50	.12	.41	.23
MAX	.50	.55	.40	.36	.36	.45	.40	1.8	18	.16	2.5	.36
MIN	.36	.40	.36	.32	.32	.32	.27	.24	.13	.09	.09	.12
AC-FT	25	28	23	21	18	21	18	21	149	7.4	25	14

CAL YR 1980 TOTAL 1542.10 MEAN 4.21 MAX 99 MIN .18 AC-FT 3060
WTR YR 1981 TOTAL 186.69 MEAN .51 MAX 18 MIN .09 AC-FT 370

07106300 FOUNTAIN CREEK NEAR PINON, CO

LOCATION.--Lat 38°26'50", long 104°35'28", in NE¼NE¼ sec.31, T.18 S., R.64 W., Pueblo County, Hydrologic Unit 11020002, near left bank on downstream side of county road bridge, 1.2 mi (1.9 km) northeast of Pinon, and 3.2 mi (5.1 km) upstream from Steele Hollow Creek.

DRAINAGE AREA.--849 mi² (2,199 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1973 to current year.

REVISED RECORDS.--WDR CO-80-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,005 ft (1,526 m), from topographic map. Prior to Apr. 23, 1976, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter period, which are fair, and those below 2.75 ft (0.838 m), which are poor. Natural flow of stream affected by storage reservoirs, power developments, transbasin and transmountain diversions municipal use, diversions above station for irrigation of about 10,000 acres (40 km²) and municipal use, and return flow from irrigated areas.

AVERAGE DISCHARGE.--8 years, 63.5 ft³/s (1.798 m³/s), 46,010 acre-ft/yr (56.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft³/s (289 m³/s) May 8, 1980, gage height, 7.05 ft (2.149 m), from rating curve extended above 7,300 ft³/s (207 m³/s); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,350 ft³/s (123 m³/s) at 1030 Aug. 6, gage height, 5.86 ft (1.786 m); minimum daily, 0.15 ft³/s (0.004 m³/s), Apr. 29, May 15-16, June 11, 25, 27-29, July 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	34	52	49	95	36	39	4.8	45	.15	1.8	323
2	7.5	36	41	68	90	80	34	171	30	146	.30	61
3	15	41	41	58	100	49	55	26	810	24	350	61
4	7.5	32	55	105	100	44	65	15	95	81	49	68
5	6.5	24	55	105	100	65	32	6.8	74	26	18	68
6	7.0	22	55	100	100	55	23	32	84	1.2	1210	58
7	6.0	22	52	76	95	58	13	51	58	1.2	97	58
8	8.7	28	49	72	100	90	11	28	42	1.2	23	65
9	6.0	44	49	85	100	90	7.4	16	25	1.5	21	55
10	7.0	22	49	90	72	44	5.2	16	6.6	2.2	327	61
11	12	22	49	100	80	44	5.0	8.7	.15	.95	220	52
12	13	22	52	105	100	52	11	4.0	21	.95	924	56
13	13	32	49	100	95	45	14	.30	19	121	104	53
14	10	61	52	105	85	45	17	.30	7.4	38	50	52
15	8.7	61	45	100	85	49	26	.15	6.4	.95	463	28
16	10	55	52	117	90	44	18	.15	14	.70	349	92
17	22	45	52	117	80	34	8.4	8.7	7.7	37	184	97
18	21	45	52	123	55	28	7.8	17	1.5	82	116	64
19	24	44	58	123	41	22	11	14	1.2	70	130	39
20	30	52	60	117	58	24	20	6.0	.95	37	95	36
21	21	44	52	117	80	24	25	5.6	.50	10	109	32
22	28	44	50	117	80	36	27	.70	.30	1.0	279	30
23	18	39	50	123	65	30	29	.30	.30	.68	257	18
24	26	45	56	123	52	26	14	21	.30	110	61	14
25	28	55	65	117	39	32	6.5	34	.15	42	41	32
26	36	58	60	111	41	26	2.5	14	.30	156	256	24
27	32	65	54	95	41	14	.70	202	.15	89	441	21
28	68	72	47	85	36	22	.30	525	.15	22	90	17
29	52	85	44	90	---	85	.15	690	.15	8.1	65	11
30	45	65	44	90	---	76	.50	95	2.2	.50	58	8.5
31	39	---	49	105	---	36	---	68	---	.30	44	---
TOTAL	639.9	1316	1590	3088	2155	1405	528.45	2081.50	1353.40	1112.58	6433.10	1654.5
MEAN	20.6	43.9	51.3	99.6	77.0	45.3	17.6	67.1	45.1	35.9	208	55.2
MAX	68	85	65	123	100	90	65	690	810	156	1210	323
MIN	6.0	22	41	49	36	14	.15	.15	.15	.15	.30	8.5
AC-FT	1270	2610	3150	6130	4270	2790	1050	4130	2680	2210	12760	3280

CAL YR 1980 TOTAL 69201.08 MEAN 189 MAX 4140 MIN .10 AC-FT 137300
WTR YR 1981 TOTAL 23357.43 MEAN 64.0 MAX 1210 MIN .15 AC-FT 46330

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1976 to September 1979.
WATER TEMPERATURE: October 1976 to September 1979.

INSTRUMENTATION.--Water-quality monitor from October 1976 to September 1979.

REMARKS.--Daily maximum and minimum specific-conductance data available in district office for period October 1976 to September 1979.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 5,070 micromhos July 24, 1979; minimum, 204 micromhos several days in October and November, 1978.
WATER TEMPERATURES: Maximum, 34.5°C July 24, 1977; minimum, freezing point on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
FEB											
18...	1015	149	--	1500	7.9	6.0	9.6	--	460	120	40
MAR											
19...	1500	24	1490	1460	7.5	16.0	7.5	15	450	120	36
APR											
17...	1035	10	1610	1590	7.7	19.5	7.6	31	520	140	42
MAY											
22...	0850	.70	1490	1490	7.6	13.0	6.8	5.4	480	130	38
JUN											
18...	1350	.80	1510	1490	7.2	17.0	3.3	4.6	480	130	37
JUL											
13...	1130	96	900	--	6.7	26.0	3.0	--	--	--	--
16...	1320	.03	1330	1380	6.8	22.5	2.9	4.2	440	120	35
AUG											
03...	1000	810	670	--	7.8	21.0	--	--	--	--	--
20...	1500	107	1060	1110	7.6	28.5	6.1	<14	330	88	27
SEP											
15...	1430	27	1360	1390	7.6	27.0	6.1	9.0	440	116	36

DATE	ALKA-LINITY LAB (MG/L AS CACO3)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
FEB										
18...	200	99	4.8	.060	4.9	1.40	3.5	4.90	9.8	1.60
MAR										
19...	200	96	3.7	.120	3.8	.490	2.3	2.80	6.6	1.80
APR										
17...	230	17	2.1	.020	2.1	.050	.30	.35	2.5	.620
MAY										
22...	220	5	2.6	.020	2.6	.260	1.1	1.40	4.0	.580
JUN										
18...	210	3	1.9	.030	1.9	.110	.83	.94	2.8	.530
JUL										
13...	--	--	--	--	--	--	--	--	--	--
16...	200	1	.48	.020	.50	.100	.39	.49	.99	.470
AUG										
03...	--	--	--	--	--	--	--	--	--	--
20...	160	366	--	--	--	--	--	1.50	--	1.30
SEP										
15...	200	136	2.9	.030	2.9	.130	1.3	1.40	4.3	.880

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)
FEB 18...	0	0	2	24	28000	18	530	.1	38	30	--
MAR 19...	1	10	0	15	3700	42	250	.1	15	5	--
APR 17...	0	10	0	8	600	0	60	.1	10	5	0
MAY 22...	1	10	0	7	80	13	60	.0	9	1	--
JUN 18...	2	10	0	7	80	2	60	.1	5	0	--
JUL 16...	0	0	0	6	70	2	150	.1	4	2	--
AUG 20...	1	10	0	22	15000	18	420	.1	17	4	--
SEP 15...	0	0	0	14	5000	22	140	.1	9	4	--

DATE	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	GROSS ALPHA, DISSOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)
FEB 18...	0	130	12	18	<17	27	10	26	9.8	25
MAR 19...	0	40	--	--	--	--	--	--	--	--
APR 17...	0	100	--	--	--	--	--	--	--	--
MAY 22...	0	10	--	--	--	--	--	--	--	--
JUN 18...	0	20	<22	<.3	<32	<.4	<13	.9	<13	.9
JUL 16...	0	40	--	--	--	--	--	--	--	--
AUG 20...	0	140	--	--	--	--	--	--	--	--
SEP 15...	0	50	--	--	--	--	--	--	--	--

DATE	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)
AUG 03...	.00	.00	.10	.02	.00	.00	.00	.00

DATE	ENDRIN, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)
AUG 03...	.00	.00	.00	.01	.00	.00	.00	.00

07106500 FOUNTAIN CREEK AT PUEBLO, CO

LOCATION.--Lat 38°17'16", long 104°36'02", in SE¼SW¼ sec.19, T.20 S., R.64 W., Pueblo County, Hydrologic Unit 11020003, on right bank at upstream side of bridge on U.S. Highway 50 at Pueblo and 2.6 mi (4.2 km) upstream from mouth.

DRAINAGE AREA.--926 mi² (2,398 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1922 to September 1925, October 1940 to September 1965, February 1971 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WDR CO-79-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,705 ft (1,434 m), from topographic map. See WSP 1711 or 1731 for history of changes prior to Oct. 1, 1940, and WSP 1921 for changes prior to Sept. 30, 1965. Feb. 1, 1971, to Sept. 30, 1976, water-stage recorder at site 1.4 mi (2.3 km) upstream at datum 4,725.30 ft (1,440.271 m), National Geodetic Vertical Datum of 1929 (unadjusted).

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Natural flow of stream affected by storage reservoirs, power developments, transbasin and transmountain diversions for municipal use, diversions for irrigation of about 14,000 acres (57 km²) above station and municipal use, and return flow from irrigated areas.

AVERAGE DISCHARGE.--38 years (water years 1923-25, 1941-65, 1972-81), 56.8 ft³/s (1.609 m³/s), 41,150 acre-ft/yr (50.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,000 ft³/s (1,330 m³/s) June 17, 1965, gage height, 19.0 ft (5.79 m), from floodmarks, site and datum then in use, from rating curve extended above 400 ft³/s (11 m³/s), on basis of contracted-opening measurement of peak flow; no flow at times many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1903, that of June 17, 1965. Flood of June 4, 1921, reached a discharge of 34,000 ft³/s (963 m³/s), by slope-area measurement. Flood of May 30, 1935, reached a discharge of 35,000 ft³/s (991 m³/s), by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,600 ft³/s (102 m³/s) at 1745 July 18, gage height, 4.86 ft (1.481 m); minimum daily, 0.01 ft³/s (0.001 m³/s) July 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OC	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	39	85	71	89	60	45	.34	49	6.0	.42	289
2	20	36	82	81	86	65	49	33	48	84	.04	108
3	18	44	80	79	90	65	47	34	708	53	200	93
4	16	45	82	78	80	60	46	22	407	44	51	91
5	13	45	82	82	85	60	40	19	188	24	28	77
6	11	42	78	81	90	61	34	12	136	5.9	718	90
7	11	46	78	81	90	59	14	25	91	.47	332	71
8	9.8	49	82	82	90	60	16	20	72	.28	179	79
9	12	49	84	82	85	72	15	12	42	.45	158	64
10	11	50	85	81	80	60	9.9	13	27	.22	213	51
11	11	52	84	81	80	55	10	16	16	.03	205	46
12	12	53	84	85	90	50	19	14	12	.01	690	62
13	13	53	79	86	95	38	16	12	24	63	134	63
14	14	53	81	86	100	32	25	10	11	11	62	74
15	14	58	80	89	100	37	38	9.9	8.0	1.9	179	43
16	16	58	80	95	90	35	38	7.6	15	1.0	403	49
17	17	60	75	90	85	40	25	11	13	1.9	117	75
18	18	55	65	100	80	45	18	26	5.9	146	94	57
19	18	56	59	90	85	50	24	23	3.3	14	114	57
20	16	65	56	85	80	42	27	24	1.6	30	119	49
21	18	75	54	90	70	45	37	29	1.0	18	99	32
22	22	80	51	95	60	50	30	28	1.0	10	200	27
23	22	78	56	100	70	56	25	23	.35	8.3	339	22
24	22	78	63	100	75	58	9.8	24	.39	4.7	111	17
25	21	74	66	95	70	64	3.2	26	.72	36	93	20
26	24	74	61	95	65	49	7.8	25	2.4	32	160	19
27	27	75	58	100	60	48	5.3	99	.99	87	304	22
28	30	77	55	97	50	53	3.5	309	1.7	54	71	22
29	32	80	54	100	---	73	2.0	293	3.2	28	87	19
30	38	84	62	89	---	68	.64	21	5.7	16	98	12
31	40	---	61	92	---	54	---	40	---	2.5	93	---
TOTAL	588.8	1783	2202	2738	2270	1664	680.14	1260.84	1895.25	783.66	5651.46	1800
MEAN	19.0	59.4	71.0	88.3	81.1	53.7	22.7	40.7	63.2	25.3	182	60.0
MAX	40	84	85	100	100	73	49	309	708	146	718	289
MIN	9.8	36	51	71	50	32	.64	.34	.35	.01	.04	12
AC-FT	1170	3540	4370	5430	4500	3300	1350	2500	3760	1550	11210	3570

CAL YR 1980 TOTAL 63238.06 MEAN 173 MAX 4080 MIN .42 AC-FT 125400
WTR YR 1981 TOTAL 23317.15 MEAN 63.9 MAX 718 MIN .01 AC-FT 46250

NOTE.--NO GAGE-HEIGHT RECORD FEB. 1 TO MAR. 5.

07106500 FOUNTAIN CREEK AT PUEBLO, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February to August 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	ALKA-LINITY LAB (MG/L AS CACO3)
FEB 18...	1230	160	--	1310	8.0	10.5	8.7	--	390	100	33	180
MAR 19...	1600	53	1770	1690	7.9	14.5	8.3	15	540	140	47	440
APR 17...	1135	27	1930	1860	8.1	22.5	7.8	29	610	150	58	230
MAY 22...	1000	4.0	2200	2170	7.8	17.0	8.5	5.5	740	170	77	260
JUN 18...	1450	2.0	2270	2180	7.8	26.5	7.3	9.3	770	180	78	230
JUL 13...	1015	160	1120	--	7.3	23.5	6.1	--	--	--	--	--
AUG 03...	1130	1100	1120	--	7.4	23.5	4.5	--	--	--	--	--

DATE	SULFIDE TOTAL (MG/L AS S)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)
FEB 18...	.0	490	3.4	.070	3.5	3.50	8.5	12.0	16	2.00	2.00
MAR 19...	.4	138	5.0	.020	5.0	.000	2.0	2.00	7.0	1.70	.840
APR 17...	.7	43	5.6	.020	5.6	.060	.62	.68	6.3	.570	.520
MAY 22...	.3	20	8.2	.010	8.2	.160	.84	1.00	9.2	.340	.310
JUN 18...	.0	16	8.8	.030	8.8	.080	1.1	1.20	10	.240	.210
JUL 13...	--	--	--	--	--	--	--	--	--	--	--
AUG 03...	--	--	--	--	--	--	--	--	--	--	--

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
FEB 18...	0	0	2	24	15000	20	18	600
MAR 19...	1	10	0	14	5100	10	9	170
APR 17...	0	10	0	8	1300	20	1	50
MAY 22...	1	10	0	8	640	50	2	40
JUN 18...	1	10	0	6	440	30	2	30

07106500 FOUNTAIN CREEK AT PUEBLO, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
FEB 18...	150	.2	46	5	--	1	130	.00
MAR 19...	10	.1	14	30	--	0	50	.00
APR 17...	5	.1	10	70	1	0	20	.00
MAY 22...	20	.1	9	90	--	0	130	.00
JUN 18...	30	.1	5	7	--	0	10	.00

DATE	GROSS ALPHA, DISSOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RA-226, DISSOLVED, PLANCHET COUNT (PCI/L)	URANIUM NATURAL DISSOLVED (UG/L AS U)
FEB 18...	14	14	21	21	18	21	18	20	1.6	9.7
JUN 18...	<35	<.4	<52	<.6	<20	1.4	<19	1.4	.2	21

DATE	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	AROCLOR 1016 PCB TOTAL (UG/L)	AROCLOR 1232 PCB TOTAL (UG/L)	AROCLOR 1242 PCB TOTAL (UG/L)	AROCLOR 1248 PCB TOTAL (UG/L)	AROCLOR 1254 PCB TOTAL (UG/L)	AROCLOR 1260 PCB TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)
MAR 19...	--	--	--	--	--	.0	.0	.0	.0	--	--	--
JUL 13...	--	--	--	.0	.0	.0	.0	.0	.0	--	--	--
AUG 03...	.00	.00	.00	.0	.0	.0	.0	.0	.0	.10	.00	.00

DATE	DDT, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)
MAR 19...	--	--	--	--	--	--	--	--	--	--	--
JUL 13...	--	--	--	--	--	--	--	--	--	--	--
AUG 03...	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00

07108900 ST. CHARLES RIVER AT VINELAND, CO

LOCATION.--Lat 38°14'44", long 104°29'09", in NE¼SW¼ sec.6, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, on right bank at right downstream end of downstream bridge on U.S. Highway 50C, 1.6 mi (2.6 km) west of Vineland, and 3.0 mi (3.9 km) upstream from mouth.

DRAINAGE AREA.--474 mi² (1,228 km²).

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,581.58 ft (1,396.465 m) (Colorado Division of Highways benchmark).

REMARKS.--Records good except those above 1,800 ft³/s (51.0 m³/s), which are fair. Natural flow of stream affected by diversions above station for irrigation of about 8,500 acres (34.4 km²), and for industrial uses, and return flow from land irrigated by Bessemer Ditch. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,910 ft³/s (167 m³/s) Aug. 3, 1980, gage height, 10.81 ft (3.295 m), from rating curve extended above 1,800 ft³/s (51.0 m³/s); minimum daily, 0.25 ft³/s (0.007 m³/s) Apr. 25, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1901, 56,000 ft³/s (1,590 m³/s) at a site 5.0 mi (8.0 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,910 ft³/s (167 m³/s), at 0315 Aug. 3, gage height, 10.81 ft (3.295 m), from rating curve extended above 1,800 ft³/s (51.0 m³/s); minimum daily, 1.6 ft³/s (0.045 m³/s) Apr. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	5.8	8.8	6.6	9.2	8.9	7.4	3.3	25	2.0	6.6	7.9
2	7.3	6.0	7.1	7.9	9.8	7.3	6.9	6.6	17	5.0	5.8	9.8
3	9.8	6.7	7.3	8.6	10	6.6	6.4	7.9	9.4	8.7	651	5.8
4	7.3	7.3	6.5	8.6	9.6	10	6.7	6.4	21	7.4	9.6	4.1
5	6.6	7.9	7.9	7.3	11	10	6.8	6.5	9.9	6.5	5.3	33
6	5.8	8.2	7.2	6.5	11	9.7	7.1	6.5	2.3	8.3	16	22
7	6.1	8.1	7.6	7.1	12	8.0	7.3	5.4	2.2	6.6	687	33
8	6.2	8.6	7.5	6.6	11	6.7	6.3	7.1	4.1	4.6	20	37
9	7.2	7.6	7.1	6.6	10	6.5	6.1	7.1	3.4	2.9	10	69
10	6.9	7.9	7.1	7.1	9.0	5.6	5.7	7.4	2.7	2.2	645	24
11	6.8	8.4	7.5	6.4	8.0	5.0	5.7	8.1	4.8	2.4	548	18
12	5.8	8.3	7.2	6.1	9.0	5.4	5.5	6.2	40	2.8	344	17
13	5.6	7.6	6.9	6.5	9.7	6.1	5.7	6.0	5.6	12	149	17
14	6.6	7.3	7.3	6.9	9.1	6.2	4.9	6.4	5.8	7.9	69	15
15	7.3	7.7	5.8	5.4	9.6	6.6	3.9	6.0	8.5	6.1	35	14
16	6.0	7.5	6.0	5.6	7.2	7.6	3.4	6.3	5.3	6.3	103	14
17	6.1	8.1	6.9	5.3	6.6	5.8	3.5	4.0	5.5	38	98	15
18	6.2	7.9	6.7	5.5	6.0	5.6	4.3	5.8	5.7	11	51	16
19	6.9	7.0	6.3	5.3	5.8	6.3	4.2	6.7	5.0	9.6	28	18
20	7.1	7.0	6.7	5.8	5.7	6.2	4.3	5.9	4.0	8.8	16	17
21	6.4	7.5	7.2	8.1	6.8	6.2	6.8	5.6	3.1	8.0	12	18
22	6.5	8.3	6.9	9.9	5.9	8.7	5.8	6.7	3.2	7.8	10	14
23	6.9	7.8	7.1	6.4	5.8	8.6	5.9	4.2	4.2	7.9	10	7.0
24	5.7	8.7	5.7	5.6	5.6	8.0	4.3	3.9	7.4	5.9	9.7	7.2
25	6.4	8.0	5.8	5.8	5.0	7.6	4.0	5.1	51	4.2	6.3	5.8
26	8.0	8.2	5.7	6.3	7.0	5.5	4.2	4.3	5.0	4.7	6.3	6.7
27	7.0	8.7	5.6	5.7	6.8	5.1	1.8	3.3	3.0	7.5	54	4.7
28	6.4	8.3	6.5	6.5	6.1	6.4	1.8	4.1	33	9.7	16	5.2
29	6.6	9.1	5.7	7.5	---	9.6	2.2	104	44	6.9	9.6	4.4
30	6.9	11	6.8	8.0	---	11	1.6	310	5.0	6.4	7.1	3.7
31	7.3	---	6.7	7.6	---	8.0	---	41	---	7.4	6.8	---
TOTAL	208.8	236.5	211.1	209.1	228.3	224.8	150.5	617.8	346.1	235.5	3645.1	483.3
MEAN	6.74	7.88	6.81	6.75	8.15	7.25	5.02	19.9	11.5	7.60	118	16.1
MAX	9.8	11	8.8	9.9	12	11	7.4	310	51	38	687	69
MIN	5.6	5.8	5.6	5.3	5.0	5.0	1.6	3.3	2.2	2.0	5.3	3.7
AC-FT	414	469	419	415	453	446	299	1230	686	467	7230	959

CAL YR 1980 TOTAL 22913.6 MEAN 62.6 MAX 1550 MIN 2.5 AC-FT 45450
WTR YR 1981 TOTAL 6796.9 MEAN 18.6 MAX 687 MIN 1.6 AC-FT 13480

07109500 ARKANSAS RIVER NEAR AVONDALE, CO

LOCATION.--Lat 38°14'53", long 104°23'55", in NE¼SW¼ sec.1, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, on right bank 15 ft (5 m) downstream from bridge on Sixmile Rd., 0.3 mi (0.5 km) upstream from Sixmile Creek, and 2.6 mi (4.2 km) west of Avondale.

DRAINAGE AREA.--6,327 mi^2 (16,387 km^2).

PERIOD OF RECORD.--May 1939 to September 1951, February 1965 to current year.

REVISED RECORDS.--WSP 1087: 1942. WSP 1311: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,509.53 ft (1,374.505 m) National Geodetic Vertical Datum of 1929. Prior to February 1965, at site 550 ft (170 m) downstream at datum 1.37 ft (0.418 m) lower.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 123,000 acres (498 km^2) and municipal use, and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974.

AVERAGE DISCHARGE.--7 years (water years 1975-81), 735 ft^3/s (20.82 m^3/s), 532,500 acre-ft/yr (657 hm^3/yr), subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 50,000 ft^3/s (1,416 m^3/s) June 18, 1965, gage height, 9.77 ft (2.978 m), from rating curve extended above 6,700 ft^3/s (190 m^3/s), on basis of records for station near Pueblo and indirect measurements of peak flow on Fountain Creek at Pueblo, Chico Creek near North Avondale, and Arkansas River near North Avondale; minimum daily, 50 ft^3/s (1.42 m^3/s) Apr. 2, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,790 ft^3/s (107 m^3/s) at 0500 Aug. 3, gage height, 4.27 ft (1.301 m); minimum daily, 200 ft^3/s (5.66 m^3/s) Apr. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	467	561	258	294	281	352	377	745	919	553	674	1020
2	415	529	249	290	275	336	327	764	905	595	580	891
3	418	494	251	297	278	337	297	782	1370	651	1220	756
4	400	454	243	303	277	336	270	800	1420	723	674	454
5	383	435	236	302	274	269	260	856	1440	732	752	359
6	356	464	240	309	277	267	240	796	1440	710	1390	466
7	340	474	248	312	274	259	221	743	1740	836	1870	605
8	328	473	241	312	273	260	208	659	2150	805	993	595
9	354	459	227	311	271	266	201	608	2460	684	969	825
10	410	442	219	297	262	259	200	511	2330	609	1700	726
11	443	468	218	297	262	249	341	480	2440	664	2090	694
12	434	436	225	296	275	248	397	484	2330	682	2480	710
13	421	438	241	303	301	251	445	528	1960	742	1310	767
14	411	395	235	311	310	256	475	544	1610	823	1290	820
15	361	292	238	313	290	313	511	590	1500	822	863	611
16	369	268	241	316	279	337	505	495	1360	835	1340	473
17	409	265	251	314	279	384	486	287	797	997	1570	577
18	450	255	252	316	277	446	478	270	557	1170	930	593
19	486	250	258	316	267	456	475	246	732	1880	758	576
20	479	239	261	322	450	457	472	243	744	1800	560	498
21	490	251	263	308	463	505	514	218	613	1520	503	447
22	510	276	266	308	449	514	499	216	524	1190	511	456
23	533	248	271	302	433	538	483	206	502	995	658	445
24	536	244	268	298	417	505	487	257	416	794	608	445
25	508	245	259	291	408	513	434	284	645	781	481	400
26	500	248	275	280	404	513	443	313	620	805	416	400
27	514	275	281	283	336	502	433	374	710	721	834	398
28	535	279	278	274	318	560	681	641	674	813	575	374
29	551	270	289	284	---	614	687	926	661	953	540	346
30	546	268	293	283	---	634	701	1030	591	805	634	313
31	559	---	299	279	---	555	---	836	---	620	940	---
TOTAL	13916	10695	7874	9321	8960	12291	12548	16732	36160	27310	30713	17040
MEAN	449	357	254	301	320	396	418	540	1205	881	991	568
MAX	559	561	299	322	463	634	701	1030	2460	1880	2480	1020
MIN	328	239	218	274	262	248	200	206	416	553	416	313
AC-FT	27600	21210	15620	18490	17770	24380	24890	33190	71720	54170	60920	33800

CAL YR 1980 TOTAL 478604 MEAN 1308 MAX 5820 MIN 203 AC-FT 949300
WTR YR 1981 TOTAL 203560 MEAN 558 MAX 2480 MIN 200 AC-FT 403800

07111000 HUERFANO RIVER AT MANZANARES CROSSING, NEAR REDWING, CO

LOCATION.--Lat 37°43'40", long 105°21'03", in sec.5, T.27 S., R.71 W., Huerfano County, Hydrologic Unit 11020006, on left bank at Manzanares Crossing, 500 ft (150 m) downstream from private bridge, 0.2 mi (0.3 km) downstream from Manzanares Creek, and 3.5 mi (5.6 km) southwest of Redwing.

DRAINAGE AREA.--73 mi^2 (189 km^2).

PERIOD OF RECORD.--July 1923 to May 1977, October 1977 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1311: 1945(M). WSP 1921: 1957.

GAGE.--Water-stage recorder. Altitude of gage is 8,270 ft (2,521 m), from topographic map. Apr. 26, 1946, to Sept. 30, 1972, at datum 1.00 ft (0.305 m) higher. See WSP 1711 or 1731 for history of changes prior to Apr. 26, 1946.

REMARKS.--Records good. Diversions above station for irrigation of about 1,800 acres (7.28 km^2). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--57 years (water years 1924-76, 1978-81), 31.1 ft^3/s (0.881 m^3/s), 22,530 acre-ft/yr (27.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft^3/s (289 m^3/s) Aug. 2, 1951, gage height, 8.14 ft (2.481 m), from rating curve extended above 270 ft^3/s (7.6 m^3/s), on basis of slope-area measurement of peak flow; minimum daily, 3.5 ft^3/s (0.099 m^3/s) Mar. 30, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 96 ft^3/s (2.72 m^3/s; at 1900 Aug. 11, gage height, 2.62 ft (0.799 m); minimum daily, 7.0 ft^3/s (0.20 m^3/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	16	13	10	8.9	14	11	39	48	26	21	23
2	16	15	12	11	9.5	14	12	38	49	27	20	21
3	16	15	13	9.5	9.5	14	12	39	50	26	22	20
4	16	15	13	10	9.5	13	11	37	45	23	30	19
5	14	15	13	11	8.9	13	11	32	43	21	27	19
6	14	15	14	8.9	8.6	13	12	29	46	20	26	20
7	14	14	14	9.2	8.4	12	13	23	50	19	23	23
8	14	14	12	9.8	8.6	12	13	22	52	20	42	27
9	14	13	12	9.5	8.6	11	14	20	53	19	43	24
10	14	13	13	9.2	8.0	11	17	18	51	18	40	23
11	14	13	13	9.5	7.0	9.5	18	18	48	18	49	23
12	14	13	13	9.2	8.0	9.5	16	20	45	18	53	24
13	14	13	13	9.5	9.2	9.5	16	22	40	16	48	23
14	14	13	12	9.5	8.6	9.8	16	20	37	16	40	22
15	16	13	13	9.5	8.6	9.5	14	19	33	20	35	20
16	16	13	13	9.5	8.9	9.8	15	20	28	21	34	20
17	16	12	13	9.5	9.2	9.8	16	20	27	34	40	19
18	16	13	13	9.2	8.9	9.8	16	20	26	55	35	18
19	16	14	12	8.9	9.2	11	16	19	24	40	30	18
20	16	13	11	8.9	9.5	10	17	19	24	32	27	17
21	16	14	12	8.9	9.5	9.8	18	19	23	26	25	16
22	16	14	12	9.2	9.0	10	19	18	23	23	23	16
23	16	14	12	8.9	11	11	20	19	23	21	22	15
24	15	13	11	8.6	11	11	23	18	24	21	20	16
25	16	13	12	8.6	11	10	30	18	23	20	19	14
26	16	16	12	8.9	13	11	34	19	21	20	18	14
27	17	15	12	8.9	13	11	34	20	22	24	20	14
28	17	14	12	9.2	14	10	33	27	20	21	26	13
29	16	14	12	8.9	---	11	35	35	23	20	23	13
30	16	13	11	8.6	---	11	38	38	27	18	22	13
31	16	---	11	8.6	---	10	---	39	---	18	21	---
TOTAL	477	415	384	288.6	267.1	341.0	570	764	1048	721	924	567
MEAN	15.4	13.8	12.4	9.31	9.54	11.0	19.0	24.6	34.9	23.3	29.8	18.9
MAX	17	16	14	11	14	14	38	39	53	55	53	27
MIN	14	12	11	8.6	7.0	9.5	11	18	20	16	18	13
AC-FT	946	823	762	572	530	676	1130	1520	2080	1430	1830	1120

CAL YR 1980 TOTAL 14420.1 MEAN 39.4 MAX 192 MIN 8.0 AC-FT 28600
WTR YR 1981 TOTAL 6766.7 MEAN 18.5 MAX 55 MIN 7.0 AC-FT 13420

07114000 CUCHARAS RIVER AT BOYD RANCH, NEAR LA VETA, CO

LOCATION.--Lat 37°25'12", long 105°03'08", in SE¼NE¼SE¼ sec.24, T.30 S., R.69 W., Huerfano County, Hydrologic Unit 11020006, on left bank at Boyd Ranch, 29 ft (9 m) downstream from private bridge, 1.4 mi (2.3 km) downstream from Chaparral Creek, and 6.5 mi (10.5 km) southwest of La Veta.

DRAINAGE AREA.--56 mi^2 (145 km^2).

PERIOD OF RECORD.--October 1934 to current year.

REVISED RECORDS.--WSP 827: 1936. WSP 1007: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 7,781 ft (2,371.6 m), from topographic map.

REMARKS.--Records good except those for winter period and period of no gage-height record, which are poor. Diversions for irrigation of about 500 acres (2.02 km^2) above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--47 years, 22.3 ft^3/s (0.632 m^3/s), 16,160 acre-ft/yr (19.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 444 ft^3/s (12.6 m^3/s) May 23, 1955, gage height, 4.05 ft (1.234 m); minimum daily, 2 ft^3/s (0.057 m^3/s) for several days November 1934 to January 1935, Sept. 29, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 91 ft^3/s (2.58 m^3/s) at 2400 July 2, gage height, 2.04 ft (0.622 m), no peak above base of 150 ft^3/s (4.2 m^3/s); minimum daily, 3.0 ft^3/s (0.085 m^3/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	8.5	7.8	5.0	4.5	7.0	5.5	8.8	17	16	9.0	10
2	8.2	8.2	7.4	5.5	5.0	7.0	6.5	8.8	19	17	9.0	8.2
3	8.2	8.2	7.5	4.5	5.0	7.0	6.5	9.2	21	21	9.5	8.2
4	8.2	8.2	7.4	5.0	5.0	6.5	6.0	8.5	22	18	12	8.8
5	7.4	8.2	7.1	5.5	4.5	7.0	6.0	10	23	16	11	8.5
6	7.4	7.8	6.8	4.0	4.0	6.5	6.5	10	26	15	11	9.9
7	7.4	7.8	6.8	4.5	4.0	6.0	7.5	9.2	27	15	10	27
8	7.4	7.8	6.2	5.0	4.0	6.0	8.2	8.8	28	15	13	15
9	7.4	7.8	6.0	4.5	4.0	5.5	10	8.5	30	13	13	14
10	7.4	7.8	7.0	4.5	3.5	5.5	11	8.0	30	12	12	14
11	7.4	7.8	7.0	4.5	3.0	5.0	11	8.0	29	12	14	17
12	7.4	8.2	7.0	4.5	4.0	5.0	9.0	9.0	27	13	16	18
13	7.4	8.8	7.0	4.5	4.5	5.0	9.0	9.5	25	12	12	16
14	7.4	7.8	6.5	4.5	4.0	5.5	9.0	9.0	23	12	10	16
15	8.0	7.5	7.0	4.5	4.0	5.0	7.0	8.5	22	15	9.6	15
16	8.0	7.5	7.0	4.5	4.5	5.5	7.5	9.0	20	14	15	15
17	8.0	7.0	7.0	4.5	4.5	5.5	8.0	9.0	19	17	21	15
18	8.0	7.5	7.0	4.0	4.5	5.5	8.0	9.0	19	15	17	14
19	8.0	8.5	6.5	4.0	4.5	6.0	8.0	8.5	18	13	14	13
20	8.0	8.0	5.5	4.0	4.5	5.5	8.5	8.5	17	12	13	12
21	8.0	8.5	6.0	4.0	4.5	5.5	8.5	7.8	17	10	12	12
22	8.0	8.5	6.0	4.5	4.0	5.5	8.5	8.2	16	10	10	12
23	8.0	8.5	6.0	4.0	5.5	6.0	9.6	8.0	16	10	9.6	12
24	7.5	8.0	5.5	4.0	5.5	6.0	9.2	8.0	15	9.6	8.8	12
25	8.5	8.0	6.0	4.0	5.5	5.5	9.2	8.0	16	9.2	8.5	11
26	8.5	9.5	6.0	4.5	6.5	6.0	9.2	8.0	15	10	11	10
27	9.0	9.0	6.0	4.5	6.5	6.0	8.5	8.0	14	10	12	10
28	9.0	8.5	6.0	4.5	7.0	5.5	8.8	8.5	14	8.8	10	9.6
29	8.5	8.5	6.0	4.5	---	6.0	8.5	11	16	8.5	10	9.6
30	8.5	8.0	5.5	4.0	---	6.0	8.8	25	17	7.8	8.5	10
31	8.5	---	5.5	4.0	---	5.5	---	18	---	7.8	8.2	---
TOTAL	246.8	243.9	202.0	138.0	130.5	181.0	247.5	296.3	618	394.7	359.7	382.8
MEAN	7.96	8.13	6.52	4.45	4.66	5.84	8.25	9.56	20.6	12.7	11.6	12.8
MAX	9.0	9.5	7.8	5.5	7.0	7.0	11	25	30	21	21	27
MIN	7.4	7.0	5.5	4.0	3.0	5.0	5.5	7.8	14	7.8	8.2	8.2
AC-FT	490	484	401	274	259	359	491	588	1230	783	713	759

CAL YR 1980 TOTAL 13209.6 MEAN 36.1 MAX 232 MIN 5.5 AC-FT 26200
WTR YR 1981 TOTAL 3441.2 MEAN 9.43 MAX 30 MIN 3.0 AC-FT 6830

NOTE.--NO GAGE-HEIGHT RECORD OCT. 15 TO NOV. 30, DEC. 9 TO APR. 8.

07116500 HUERFANO RIVER NEAR BOONE, CO

(Formerly published as Huerfano River near Nepesta)

LOCATION.--Lat 38°13'30", long 104°15'37", in NE¼NE¼ sec.18, T.21 S., R.61 W., Pueblo County, Hydrologic Unit 11020006, at right upstream end of bridge on U.S. Highway 50, 0.8 mi (1.3 km) upstream from mouth, and 1.6 mi (2.6 km) south of Boone.

DRAINAGE AREA.--1,875 mi^2 (4,856 km^2).

PERIOD OF RECORD.--January 1922 to September 1925 (monthly and annual discharge only, published in WSP 1311 as near Nepesta), October 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,443.75 ft (1,354.455 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those above 1,200 ft^3/s (34.0 m^3/s) and those for winter period and Aug. 3-18, which are fair. Natural flow of stream affected by diversions for irrigation of about 48,000 acres (194 km^2), and return flow from irrigated areas. Several observations of water temperature and specific conductance were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,400 ft^3/s (549 m^3/s) Aug. 1, 1923, gage height, 9.4 ft (2.865 m) datum then in use, from rating curve extended above 1,200 ft^3/s (34.0 m^3/s) on the basis of slope-area measurement of peak flow; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,030 ft^3/s (227 m^3/s) at 0300 Aug. 12, gage height, 10.90 ft (3.322 m), from floodmark, from rating curve extended above 1,200 ft^3/s (34.0 m^3/s); no flow many days.

REVISIONS.--The maximum discharge for water year 1980 has been revised to 1,350 ft^3/s (38.2 m^3/s) at 1245 May 16, gage height, 7.25 ft (2.210 m), from floodmark, from rating curve extended above 750 ft^3/s (21.2 m^3/s), this figure supersedes that published in WDR CO-80-1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	7.7	5.0	2.0	2.7	3.2	.28	2.5	.00	17	2.0
2	.00	.00	4.2	4.5	3.4	2.7	3.2	.21	1.5	.00	2.4	1.3
3	.00	.00	1.7	4.0	4.6	2.7	2.9	.81	.59	.00	131	.24
4	.00	.09	3.4	3.5	4.5	3.7	2.6	.04	.17	.00	25	.09
5	.00	5.9	4.5	2.9	5.9	3.2	2.5	.43	.00	.00	2.5	.02
6	.00	14	3.7	2.5	7.5	3.1	2.3	.42	.00	.00	90	.00
7	.00	17	4.4	2.1	5.0	2.7	2.0	.00	.00	.00	794	16
8	.00	18	4.8	1.8	4.5	2.8	1.6	.00	.00	.00	61	.12
9	.00	22	4.1	1.7	3.0	2.7	1.5	.00	.00	.00	25	.00
10	.00	18	6.0	1.4	2.0	2.9	1.9	.00	.00	.00	780	.00
11	.00	15	9.1	1.5	2.0	2.4	1.7	.00	.00	.00	1840	.00
12	.00	9.6	6.8	1.8	3.0	2.4	1.6	.00	.00	.00	2900	.00
13	.00	2.0	6.8	1.9	5.0	2.2	1.7	.00	.00	2.0	500	.00
14	.00	2.2	7.3	1.6	7.0	2.2	1.3	.00	.00	20	100	.00
15	.00	9.7	7.8	2.0	9.0	2.1	1.6	.00	.00	3.0	70	.00
16	.00	4.5	10	2.7	2.9	3.0	1.7	.00	.00	.50	80	.00
17	.00	.69	10	2.7	2.3	12	1.4	.00	.00	2.5	100	.02
18	.00	.51	9.0	3.0	2.0	9.6	1.1	.00	.00	11	70	.37
19	.00	5.1	12	3.6	2.2	5.4	1.1	.00	.00	.02	56	.05
20	.00	15	35	3.1	2.5	2.3	1.0	.00	.00	.00	42	.00
21	.00	4.8	25	12	2.4	2.2	1.3	.00	.00	.00	32	.00
22	.00	11	9.1	4.6	2.4	3.1	1.0	.00	.00	.00	32	.33
23	.00	6.8	6.0	3.0	2.9	2.1	.86	.00	.00	.00	28	.35
24	.00	36	4.0	3.0	2.9	2.0	.80	.00	.00	.00	29	.00
25	.00	34	6.0	2.3	2.5	2.3	.67	.00	.00	.00	19	.00
26	.00	18	7.0	1.2	2.3	2.3	.49	.00	.00	.00	11	.00
27	.00	24	8.0	1.4	2.1	1.8	.09	.00	.00	.00	15	.00
28	.00	55	8.0	1.8	2.4	1.9	.06	.00	.00	4.7	11	.00
29	12	52	6.0	1.6	---	4.4	.00	.00	.00	.00	8.0	.00
30	1.9	11	7.0	1.5	---	6.1	.00	51	.00	.00	3.9	.00
31	.00	---	6.0	2.2	---	3.2	---	6.7	---	.00	1.2	---
TOTAL	13.90	411.89	250.4	87.9	100.2	104.2	43.17	59.89	4.76	43.72	7876.0	20.89
MEAN	.45	13.7	8.08	2.84	3.58	3.36	1.44	1.93	.16	1.41	254	.70
MAX	12	55	35	12	9.0	12	3.2	51	2.5	20	2900	16
MIN	.00	.00	1.7	1.2	2.0	1.8	.00	.00	.00	.00	1.2	.00
AC-FT	28	817	497	174	199	207	86	119	9.4	87	15620	41

CAL YR 1980 TOTAL 13116.83 MEAN 35.8 MAX 485 MIN .00 AC-FT 26020
WTR YR 1981 TOTAL 9016.92 MEAN 24.7 MAX 2900 MIN .00 AC-FT 17890

07117000 ARKANSAS RIVER NEAR NEPESTA, CO

LOCATION.--Lat 38°11'03", long 104°10'22", in SW¼SE¼ sec.25, T.21 S., R.61 W., Pueblo County, Hydrologic Unit 11020005, on right bank 0.7 mi (1.1 km) upstream from headgate of Oxford Farmers Co. canal, 1.9 mi (3.1 km) northwest of Nepesta, 2.7 mi (4.3 km) upstream from Kramer Creek, and 6.6 mi (10.6 km) downstream from Huerfano River.

DRAINAGE AREA.--9,345 mi^2 (24,204 km^2), of which 54 mi^2 (140 km^2) is probably noncontributing.

PERIOD OF RECORD.--April to October 1903, April to November 1912, October 1913 to current year. Monthly discharge only for some periods, published in WSP 1311. Records originally published for October 1933 to June 1936 did not include diversion to Oxford Farmers Co. canal, but monthly figures only for this period have been adjusted for diversion and published in WSP 1311.

Records for river below Oxford Farmers Co. canal (diversion to canal not included), published as "at Nepesta" September 1897 to October 1903 (irrigation seasons only), April to October 1904, June 1906 to September 1908 (irrigation seasons only), September 1909 to December 1910, February to September 1911 (gage heights and discharge measurements only), October 1911 to November 1912, March to August 1913 (discharge measurements only), October 1913 to September 1936. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: Drainage area. WDR CO-79-1: 1965.

GAGE.--Water-stage recorder. Altitude of gage is 4,385 ft (1,337 m), from topographic map. Prior to June 5, 1921, nonrecording gages or water-stage recorders at various sites within 4.5 mi (7.2 km) upstream and 3.0 mi (4.8 km) downstream at different datums. June 5, 1921, to Apr. 4, 1966, water-stage recorders at sites on river or river and canal within 0.7 mi (1.1 km) downstream at various datums.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 230,000 acres (931 km^2), and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--60 years (water years 1914-73), 684 ft^3/s (19.37 m^3/s), 495,600 acre-ft/yr (611 hm^3/yr), prior to completion of Pueblo Dam; 7 years (water years 1975-81), 642 ft^3/s (18.18 m^3/s), 465,100 acre-ft/yr (573 hm^3/yr), subsequent to completion of Pueblo Dam. The figure published in the 1980 report was in error; the correct figure is 6 years, (water years 1975-80), 679 ft^3/s (19.23 m^3/s), 491,900 acre-ft/yr (573 hm^3/yr), subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft^3/s (5,100 m^3/s) June 4, 1921, gage height not determined, by slope-area measurement of peak flow at a point 8 mi (13 km) upstream; no flow at times in 1902, 1910, 1931, and 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,400 ft^3/s (295 m^3/s) at 0800 Aug. 12, gage height, 8.14 ft (2.481 m); minimum daily, 76 ft^3/s (2.15 m^3/s) Apr. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	400	444	315	340	325	122	320	265	618	422	570	420
2	325	450	295	356	305	133	236	305	636	406	576	477
3	295	422	290	345	300	129	204	367	756	516	1400	325
4	265	384	295	340	305	178	191	394	1050	540	534	343
5	260	362	300	340	300	144	186	450	1070	588	325	330
6	245	372	275	330	295	129	155	482	1020	499	650	310
7	250	384	275	330	290	129	115	411	964	406	2650	594
8	255	378	275	330	300	115	91	330	1280	362	594	552
9	240	389	275	315	305	100	86	270	1730	260	540	618
10	255	384	275	315	230	106	76	191	1640	144	1800	654
11	280	394	280	315	220	109	111	94	1780	140	3200	576
12	280	394	285	310	270	100	204	83	1840	186	5080	552
13	255	356	275	315	450	103	250	103	1400	253	982	594
14	260	335	275	330	500	100	290	122	1000	345	690	684
15	265	378	275	325	450	168	335	164	900	444	570	540
16	260	335	290	325	430	232	362	188	840	367	1100	400
17	260	320	300	325	410	290	340	210	585	559	1850	416
18	280	300	310	325	400	335	310	144	270	594	510	460
19	320	305	305	325	350	350	330	129	285	982	696	460
20	325	305	305	330	300	335	315	115	356	1230	690	416
21	320	300	310	335	250	345	335	100	400	832	588	350
22	315	300	315	320	210	372	350	83	406	762	428	345
23	315	300	320	315	180	384	330	79	384	769	558	372
24	356	310	310	315	151	372	325	81	290	684	600	345
25	362	305	320	315	133	378	270	100	428	594	466	320
26	350	305	345	310	151	394	245	118	477	703	345	280
27	345	310	335	310	164	378	204	160	552	618	725	280
28	378	320	340	310	136	372	160	240	564	600	612	275
29	384	330	340	325	---	477	204	630	558	729	504	240
30	400	330	335	325	---	466	209	968	482	684	460	214
31	416	---	335	325	---	438	---	499	---	522	450	---
TOTAL	9516	10501	9375	10071	8110	7783	7139	7875	24561	16740	30743	12742
MEAN	307	350	302	325	290	251	238	254	819	540	992	425
MAX	416	450	345	356	500	477	362	968	1840	1230	5080	684
MIN	240	300	275	310	133	100	76	79	270	140	325	214
AC-FT	18870	20830	18600	19980	16090	15440	14160	15620	48720	33200	60980	25270

CAL YR 1980 TOTAL 404336 MEAN 1105 MAX 6480 MIN 168 AC-FT 802000
WTR YR 1981 TOTAL 155156 MEAN 425 MAX 5080 MIN 76 AC-FT 307800

07118500 APISHAPA RIVER AT AGUILAR, CO

LOCATION.--Lat 37°24'00", long 104°38'29", in SE¼SW¼ sec.26, T.30 S., R.65 W., Las Animas County, Hydrologic Unit 11020007, on right bank 10 ft (3.0 m) downstream from county bridge on Aguilar Road, 0.8 mi (1.3 km) southeast of Aguilar, and 0.7 mi (1.1 km) upstream from Gonzales Canyon.

DRAINAGE AREA.--147 mi² (381 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1938 to September 1939, June 1978 to September 1981 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 6,340 ft (1,932 m), from topographic map. Mar. 3, 1938 to Sept. 30, 1939, nonrecording gage at site 1.3 mi (2.1 km) upstream at different datum.

REMARKS.--Records good. Several diversions for irrigation above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft³/s (147 m³/s) Aug. 10, 1938, gage height, 14.32 ft (4.365 m) from floodmarks, from rating curve extended above 25 ft³/s (0.71 m³/s) on basis of slope-area measurements at gage heights, 12.96 ft (3.950 m) and 14.32 ft (4.365 m); no flow many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in Aug. 1930 reached a stage of 20.73 ft (6.319 m), at site and datum in use in 1938, from information by local residents. Discharge not determined. For discussion of this flood, see WSP 997.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 480 ft³/s (13.6 m³/s) at 2000 Aug. 6, gage height, 6.00 ft (1.829 m); minimum daily, 0.04 ft³/s (0.001 m³/s) Apr. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	.37	1.6	1.2	.77	.93	.24	.10	.62	.34	1.4	10
2	.55	.34	1.5	.80	.75	1.1	.23	.10	.36	.36	1.3	9.8
3	.55	.32	1.5	.23	.75	1.3	.16	.09	.41	82	1.2	9.3
4	.55	.31	1.6	.22	.78	1.5	.12	.09	.26	63	1.2	17
5	.55	.31	1.6	.23	.81	1.3	.12	.10	.26	17	1.1	8.1
6	.45	.32	1.6	.24	.95	1.4	.05	.11	.28	4.1	20	2.5
7	.45	.29	1.6	.24	.94	1.4	.05	.05	.30	.56	12	19
8	.45	.28	1.6	.25	1.1	1.5	.05	.05	.33	.55	3.6	15
9	.45	.27	.85	.26	.96	1.0	.04	.06	.34	.55	3.5	15
10	.44	.27	1.0	.46	.90	.40	.05	.06	.35	3.0	59	12
11	.43	.27	1.4	.31	.90	.41	.05	.06	.41	.93	95	9.4
12	.42	.27	1.5	.31	.96	.40	.05	.06	.47	.59	186	9.4
13	.41	.27	1.7	.39	1.5	.41	.05	.07	.55	.60	106	11
14	.41	.26	1.6	.36	1.7	.30	.05	.07	.56	.61	67	9.5
15	.40	.65	1.2	.49	1.9	.28	.06	.08	.54	.73	57	8.5
16	.40	1.3	1.3	.63	1.6	.26	.07	.08	.49	2.5	65	9.4
17	.44	1.1	1.3	.80	1.6	.25	.07	.08	.48	1.1	115	7.8
18	.47	1.1	1.3	.51	1.5	.29	.06	.09	.51	18	86	7.2
19	.45	1.2	1.3	.39	1.5	.25	.07	.09	.56	38	64	6.6
20	.42	1.2	1.1	.35	1.5	.21	.08	.10	.58	9.7	48	5.9
21	.41	1.4	.98	.45	1.6	.24	.08	.05	.59	2.3	49	3.6
22	.45	1.5	1.2	.36	1.2	.18	.08	.05	.61	1.2	40	2.7
23	.45	1.6	1.5	.16	1.2	.16	.06	.06	.61	.96	35	2.6
24	.38	1.6	.96	.44	1.4	.16	.07	.06	2.6	.90	27	2.6
25	.40	1.1	1.3	.61	1.1	.13	.07	.06	.45	22	22	2.6
26	.46	1.3	1.6	.70	1.4	.13	.08	.07	.34	12	13	2.9
27	.44	1.4	1.5	.70	1.3	.11	.08	.07	.33	2.6	10	1.7
28	.41	1.6	1.5	.70	.97	.19	.09	.08	.34	1.3	13	1.6
29	.40	1.6	1.5	.70	---	.21	.09	.12	.35	1.2	14	1.6
30	.39	1.6	1.2	.70	---	.21	.10	12	.34	1.2	13	1.5
31	.41	---	1.4	.74	---	.24	---	3.2	---	2.1	11	---
TOTAL	13.89	25.40	42.79	14.93	33.54	16.85	2.52	17.41	15.22	291.98	1240.3	225.8
MEAN	.45	.85	1.38	.48	1.20	.54	.084	.56	.51	9.42	40.0	7.53
MAX	.60	1.6	1.7	1.2	1.9	1.5	.24	12	2.6	82	186	19
MIN	.38	.26	.85	.16	.75	.11	.04	.05	.26	.34	1.1	1.5
AC-FT	28	50	85	30	67	33	5.0	35	30	579	2460	448

CAL YR 1980 TOTAL 5070.32 MEAN 13.9 MAX 165 MIN .14 AC-FT 10060
WTR YR 1981 TOTAL 1940.63 MEAN 5.32 MAX 186 MIN .04 AC-FT 3850

07118500 APISHAPA RIVER AT AGUILAR, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1938 to September 1939, June 1978 to September 1981 (discontinued).

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1981 (seasonal only).

REMARKS.--Samples were collected by local observer primarily on rises. Daily sediment data for the 1980 water year is published in this report.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 28,100 mg/L Aug. 12, 1981; no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 43,800 tons (39,700 t) July 31, 1979; no flow many days during the year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 28,100 mg/L Aug. 12; minimum daily, 15 mg/L on many days.
SEDIMENT LOADS: Maximum daily, 14,900 tons (13,500 t) Aug. 12; no flow on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
MAR										
18...	1245	.66	936	7.1	14.0	11.0	290	76	24	96
MAY										
13...	1625	.07	--	--	--	--	--	--	--	--
30...	0700	7.5	--	--	10.0	--	--	--	--	--
30...	1000	3.3	--	--	12.0	--	--	--	--	--
30...	1230	18	--	--	15.0	--	--	--	--	--
JUL										
03...	0750	13	645	--	16.0	--	--	--	--	--
03...	0815	107	390	--	16.0	--	--	--	--	--
03...	2115	96	168	--	17.0	--	--	--	--	--
18...	2020	261	251	--	16.0	--	--	--	--	--
18...	2105	100	252	--	15.5	--	--	--	--	--
18...	2210	76	236	--	15.5	--	--	--	--	--
AUG										
06...	1900	655	--	--	16.0	--	--	--	--	--
06...	2000	217	--	--	15.5	--	--	--	--	--
10...	0930	20	--	--	13.7	--	--	--	--	--
10...	1315	17	--	7.6	17.8	--	120	33	8.3	21
10...	1735	79	--	--	16.0	--	--	--	--	--
10...	1835	428	--	--	14.5	--	--	--	--	--
10...	1910	140	--	--	14.5	--	--	--	--	--
21...	1015	49	--	--	14.0	--	--	--	--	--
25...	1055	.62	--	--	--	--	--	--	--	--

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
MAR										
18...	2.5	1.8	190	8.2	.3	9.1	592	.81	1.1	.11
MAY										
13...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
JUL										
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--
AUG										
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	.9	3.1	48	3.8	.6	9.5	197	.27	9.2	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--

07118500 APISHAPA RIVER AT AGUILAR, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
MAR										
18...	.000	100	0	1	1	0	0	<1	--	--
MAY										
13...	--	--	--	--	--	--	--	--	--	--
30...	--	10000	--	1	--	--	1	--	19	8
30...	--	6700	--	0	--	--	1	--	20	5
30...	--	27000	--	4	--	--	1	--	11	21
JUL										
03...	--	360000	--	34	--	--	3	--	180	280
03...	--	270000	--	66	--	--	1	--	150	150
03...	--	100000	--	8	--	--	0	--	120	80
18...	--	360000	--	40	--	--	2	--	140	390
18...	--	350000	--	20	--	--	3	--	180	360
18...	--	350000	--	40	--	--	2	--	120	180
AUG										
06...	--	330000	--	43	--	--	5	--	450	400
06...	--	370000	--	37	--	--	6	--	700	720
10...	--	80000	--	5	--	--	0	--	25	63
10...	--	--	--	--	--	3700	--	--	--	--
10...	--	210000	--	21	--	--	3	--	450	340
10...	--	240000	--	7	--	--	3	--	600	97
10...	--	190000	--	7	--	--	3	--	450	170
21...	--	20000	--	2	--	--	0	--	23	9
25...	--	--	--	--	--	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
MAR										
18...	1	1	150	10	1	0	30	20	3.0	.0
MAY										
13...	--	--	--	--	--	--	--	--	--	--
30...	21	--	17000	--	17	--	820	--	.2	--
30...	15	--	11000	--	10	--	490	--	.2	--
30...	47	--	45000	--	41	--	2000	--	.2	--
JUL										
03...	750	--	470000	--	350	--	22000	--	.7	--
03...	400	--	360000	--	160	--	12000	--	.6	--
03...	180	--	170000	--	130	--	4700	--	.5	--
18...	1100	--	640000	--	400	--	26000	--	1.6	--
18...	1100	--	630000	--	380	--	26000	--	1.6	--
18...	480	--	380000	--	140	--	11000	--	.6	--
AUG										
06...	1000	--	620000	--	680	--	22000	--	2.9	--
06...	950	--	580000	--	62	--	24000	--	2.2	--
10...	110	--	110000	--	57	--	2400	--	.3	--
10...	--	--	74000	300	--	--	1500	14	--	--
10...	700	--	570000	--	670	--	18000	--	1.7	--
10...	650	--	460000	--	200	--	13000	--	1.3	--
10...	450	--	340000	--	170	--	9900	--	1.4	--
21...	18	--	16000	--	7	--	420	--	.1	--
25...	--	--	--	--	--	--	--	--	--	--

07118500 APISHAPA RIVER AT AGUILAR, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
MAR										
18...	2	<10	2	0	1	1	10	4	12	10
MAY										
13...	--	--	--	--	--	--	--	--	--	--
30...	2	--	11	--	1	--	70	--	--	--
30...	2	--	8	--	1	--	40	--	--	--
30...	2	--	31	--	2	--	190	--	--	--
JUL										
03...	5	--	430	--	0	--	2000	--	--	--
03...	5	--	230	--	0	--	1300	--	--	--
03...	10	--	100	--	0	--	6500	--	--	--
18...	1	--	660	--	0	--	2700	--	--	--
18...	2	--	640	--	0	--	2500	--	--	--
18...	1	--	260	--	0	--	1400	--	--	--
AUG										
06...	4	--	590	--	28	--	2800	--	--	--
06...	1	--	840	--	29	--	3000	--	--	--
10...	2	--	30	--	3	--	410	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	2	--	470	--	16	--	2300	--	--	--
10...	1	--	370	--	14	--	2000	--	--	--
10...	3	--	260	--	7	--	1600	--	--	--
21...	3	--	6	--	1	--	90	--	--	--
25...	--	--	--	--	--	--	--	--	--	--

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
MAY				
13...	1625	.07	14	.00
AUG				
21...	1015	49	796	105
AUG				
25...	1055	.62	177	.30

07118500 APISHAPA RIVER AT AGUILAR, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	.94	---	.35	165	6130	2760	59	656	245
2	1.8	---	.83	149	3060	1230	58	520	192
3	1.8	---	.78	138	---	768	55	525	188
4	1.9	---	.80	132	---	767	55	595	212
5	1.9	---	.73	142	3340	1310	54	578	202
6	1.9	---	.69	150	2390	957	54	601	212
7	2.0	---	.73	161	3100	1430	50	---	150
8	1.9	---	.80	132	9690	2940	48	---	119
9	1.7	---	.75	123	4640	1200	54	711	254
10	1.8	201	.86	128	---	870	55	571	204
11	2.0	---	.97	122	---	469	54	523	178
12	2.0	---	.99	116	1100	336	45	---	187
13	2.0	---	.94	108	---	306	39	264	73
14	2.0	---	.97	99	---	296	33	---	33
15	2.2	---	1.2	123	3820	1820	26	---	26
16	1.8	---	.84	139	6060	2460	21	120	24
17	.93	---	.31	122	3090	2120	25	180	38
18	1.8	165	.68	111	---	1540	23	---	25
19	.80	---	.26	97	2420	1360	18	---	15
20	.14	---	.02	90	2860	1520	15	---	10
21	.74	112	.15	97	4040	2280	11	---	10
22	1.1	---	.32	102	3550	2080	10	---	5.0
23	1.5	---	.43	103	3060	1810	8.8	---	5.0
24	33	---	2510	96	2390	1340	3.7	---	3.0
25	100	---	3640	88	1570	822	1.8	---	3.0
26	20	1410	82	79	1100	528	1.7	---	1.0
27	29	2870	277	71	1210	524	1.6	---	1.0
28	44	2090	266	69	1260	526	1.7	---	.00
29	54	1640	245	67	1230	511	1.8	---	.00
30	98	4010	1470	64	1110	456	1.9	---	.00
31	---	---	---	61	730	280	---	---	---

07118500 APISHAPA RIVER AT AGUILAR, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	2.0	---	.10	1.6		.00	1.0		.00
2	1.9	---	.10	1.6		.00	1.0		.00
3	1.8	---	.05	1.4		.00	.89		.00
4	3.2	---	.70	1.3		.00	.90		.00
5	4.0	---	.40	1.5		.00	.90		.00
6	3.6	---	.35	1.4		.00	.81		.00
7	4.3	---	.85	1.2		.00	.89		.00
8	3.8	67	.73	1.2		.00	1.0		.10
9	3.2	---	.30	1.2		.00	1.8		1.4
10	2.0	---	.10	1.3		.00	.83		.00
11	1.7	---	.00	1.3		.00	.93		.00
12	1.6	---	.00	1.4		.00	.95		.00
13	1.5	---	.00	1.4		.00	.73		.00
14	1.5	---	.00	3.1		5.4	.79		.00
15	1.5	---	.00	1.6		.10	.92		.00
16	1.6	---	.00	1.2		.00	.86		.00
17	1.6	---	.00	1.1		.00	.70		.00
18	1.6	---	.00	1.1		.00	.79		.00
19	1.6	---	.00	1.1		.00	.83		.00
20	1.6	---	.00	1.2		.00	.78		.00
21	1.4	---	.00	1.3		.00	.72		.00
22	14	3430	289	1.3		.00	.65		.00
23	1.4	---	50	1.2		.00	.57		.00
24	1.3	---	5.0	1.2		.00	.53		.00
25	1.1	---	1.0	1.2		.00	.52		.00
26	1.1	---	.00	1.2		.00	.53		.00
27	1.2	---	.00	1.2		.10	.55		.00
28	1.2	---	.00	.92		.00	.57		.00
29	1.3	---	.00	.85		.00	.60		.00
30	1.4	---	.00	.90		.00	.61		.00
31	1.5	---	.00	.96		.00	---		
TOTAL	72.5	---	348.68	40.43		5.60	24.15		1.50
YEAR	5058.12		49092.18						

07118500 APISHAPA RIVER AT AGUILAR, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	.24	---	.03	.10	17	.01	.62	---	.69
2	.23	---	.03	.10	---	.01	.36	---	.05
3	.16	---	.02	.09	---	.01	.41	---	.10
4	.12	---	.01	.09	27	.01	.26	---	.01
5	.12	---	.01	.10	---	.01	.26	---	.01
6	.05	---	.01	.11	24	.01	.28	---	.01
7	.05	---	.01	.05	17	.00	.30	---	.01
8	.05	---	.01	.05	---	.00	.33	---	.01
9	.04	---	.00	.06	18	.00	.34	---	.01
10	.05	---	.00	.06	---	.00	.35	---	.01
11	.05	---	.00	.06	19	.00	.41	---	.02
12	.05	---	.00	.06	---	.00	.47	---	.02
13	.05	---	.00	.07	14	.00	.55	---	.02
14	.05	---	.00	.07	21	.00	.56	---	.02
15	.06	---	.01	.08	---	.00	.54	---	.02
16	.07	---	.01	.08	18	.00	.49	---	.02
17	.07	---	.01	.08	---	.00	.48	---	.02
18	.06	---	.01	.09	13	.00	.51	---	.02
19	.07	---	.01	.09	19	.00	.56	---	.02
20	.08	---	.01	.10	---	.00	.58	---	.02
21	.08	---	.01	.05	18	.00	.59	---	.02
22	.08	---	.01	.05	16	.00	.61	---	.02
23	.06	34	.01	.06	---	.00	.61	---	.02
24	.07	25	.01	.06	---	.00	2.6	---	6.0
25	.07	71	.01	.06	22	.00	.45	---	.06
26	.08	---	.01	.07	19	.00	.34	---	.05
27	.08	56	.01	.07	---	.00	.33	---	.05
28	.09	---	.01	.08	---	.00	.34	---	.05
29	.09	43	.01	.12	---	.01	.35	60	.06
30	.10	---	.01	12	535	23	.34	41	.04
31	---	---	---	3.2	81	.70	---	---	---

07118500 APISHAPA RIVER AT AGUILAR, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	.34	---	.06	1.4	---	.20	10		1.5
2	.36	103	.10	1.3	---	.15	9.8		1.3
3	82	17400	6430	1.2	---	.13	9.3		1.0
4	63	---	3870	1.2	---	.13	17		2.7
5	17	1250	66	1.1	---	.12	8.1		1.7
6	4.1	371	5.1	20	14700	5860	2.5		.35
7	.56	---	.15	12	12600	1820	19		25
8	.55	91	.14	3.6	514	9.2	15		3.2
9	.55	---	.13	3.5	---	27	15		2.5
10	3.0	358	8.8	59	14800	4750	12		1.5
11	.93	275	.75	95	9220	2490	9.4		1.0
12	.59	---	.20	186	28100	14900	9.4		1.5
13	.60	52	.08	106	10400	3110	11		2.0
14	.61	---	.09	67	3750	699	9.5		1.5
15	.73	---	.10	57	---	230	8.5		1.1
16	2.5	---	19	65	7400	2160	9.4		1.3
17	1.1	85	.25	115	11400	3530	7.8		.80
18	18	8940	2620	86	4340	1050	7.2		.60
19	38	3880	446	64	---	260	6.6		.50
20	9.7	262	7.1	48	---	130	5.9		.50
21	2.3	---	1.2	49	808	108	3.6		.20
22	1.2	87	.28	40	---	44	2.7		.20
23	.96	---	.13	35	---	23	2.6		.20
24	.90	21	.05	27	---	15	2.6		.10
25	22	---	2110	22	177	11	2.6		.10
26	12	---	310	13	---	5.5	2.9		.10
27	2.6	300	2.1	10	---	3.5	1.7		.10
28	1.3	---	.50	13	---	4.0	1.6		.10
29	1.2	---	.30	14	---	3.5	1.6		.10
30	1.2	---	.15	13	---	2.5	1.5		.10
31	2.1	---	2.2	11	---	2.0	---		
TOTAL	291.98	---	15900.96	1240.3	---	41247.93	225.8		52.85
YEAR	1940.63		57233.28						

07119500 APISHAPA RIVER NEAR FOWLER, CO

LOCATION.--Lat 38°05'28", long 103°58'52", in SE¼NW¼ sec.35, T.22 S., R.59 W., Otero County, Hydrologic Unit 11020007, near right bank on downstream side of county highway bridge, 3.5 mi (5.6 km) southeast of Fowler, and 5.4 mi (8.7 km) upstream from mouth.

DRAINAGE AREA.--1,125 mi² (2,914 km²).

PERIOD OF RECORD.--April 1922 to September 1925, May 1939 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 957: 1939, 1941. WSP 1117: Drainage area. WSP 1241: 1923(M). WRD Colo. 1974: 1973(M).

GAGE.--Water-stage recorder. Datum of gage is 4,317.05 ft (1,315.837 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 29, 1923, at site 3 mi (5 km) downstream at different datum. Aug. 29, 1923, to Sept. 30, 1925, at present site at different datum.

REMARKS.--Records good except those Aug. 12-Sept. 30, which are poor. Waste water from Oxford Farmers Co. and Rocky Ford Highline canals enters river above station. Diversions above station for irrigation of about 4,700 acres (19.0 km²). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--45 years, 29.8 ft³/s (0.844 m³/s) 21,590 acre-ft/yr (26.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 83,000 ft³/s (2,350 m³/s) Aug. 22, 1923, by slope-area measurement 2 mi (3 km) upstream from present station, caused by failure of Apishapa Dam 31 mi (50 km) upstream; no flow Feb. 5, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,190 ft³/s (119 m³/s) at 1200 Aug. 3, gage height, 10.80 ft (3.292 m), from floodmark, only peak above base of 3,000 ft³/s (85 m³/s); minimum daily, 1.8 ft³/s (0.051 m³/s) Apr. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	6.0	3.9	3.2	2.4	2.9	3.4	2.0	24	2.8	9.0	10
2	5.3	7.5	3.9	3.0	2.4	2.9	3.2	2.7	7.5	2.7	8.0	9.8
3	5.3	8.2	3.8	3.2	2.4	3.1	2.9	2.7	4.4	3.1	757	8.7
4	5.7	10	3.4	3.3	2.4	3.4	2.9	8.9	4.5	3.0	99	8.1
5	6.2	8.9	3.5	3.2	2.4	3.2	3.3	4.1	3.7	3.8	22	7.8
6	8.6	8.8	3.7	3.2	2.6	3.2	3.0	2.2	3.4	2.7	202	8.0
7	9.3	11	3.8	3.0	2.4	3.2	3.1	2.3	3.0	2.1	384	12
8	7.1	12	3.7	3.0	2.3	3.2	3.8	2.2	2.8	2.1	123	9.0
9	5.4	28	3.7	3.0	2.4	3.1	3.6	2.1	2.6	2.2	31	8.5
10	6.3	25	3.7	2.9	2.4	3.1	2.9	2.3	4.0	2.0	22	8.0
11	5.7	19	3.4	3.0	2.4	3.0	3.0	2.8	5.0	2.2	398	7.8
12	5.7	20	3.5	3.2	2.6	3.0	2.8	3.0	4.7	2.2	100	7.5
13	5.2	22	3.4	3.2	2.3	3.2	2.8	2.4	6.6	101	200	7.2
14	6.0	18	3.4	3.0	2.3	3.3	3.2	2.6	6.8	9.8	25	7.0
15	5.7	5.2	3.7	2.8	2.4	6.5	3.1	2.2	7.7	9.5	100	7.0
16	9.9	4.8	3.5	2.8	2.2	10	2.9	2.2	6.7	5.5	200	7.4
17	9.5	4.7	3.4	3.0	2.2	2.6	5.1	2.6	5.0	3.9	500	9.0
18	8.0	4.6	3.4	3.1	2.2	2.9	4.5	3.0	4.3	92	80	8.0
19	5.7	4.2	3.4	3.5	2.4	4.1	5.0	3.4	3.7	20	15	7.6
20	5.7	4.5	3.4	2.6	2.4	2.9	5.0	3.0	3.2	9.9	12	7.2
21	5.5	4.4	3.3	2.8	2.4	3.0	4.6	2.1	3.4	8.7	11	7.0
22	7.2	4.4	3.2	2.8	2.5	4.3	3.3	2.2	3.4	6.9	11	6.8
23	6.9	4.1	3.2	2.7	2.5	3.4	3.1	2.7	3.2	8.4	10	6.6
24	8.6	4.1	3.2	2.6	2.5	2.9	3.4	2.6	3.4	8.4	10	6.6
25	10	3.9	3.3	2.7	2.6	2.3	5.3	2.6	3.2	7.6	10	6.6
26	6.5	3.9	3.3	2.8	2.6	2.4	3.2	3.4	3.8	43	20	6.8
27	6.5	3.8	3.1	2.8	2.8	2.7	3.3	3.5	4.1	23	50	7.0
28	8.7	3.9	3.2	2.8	2.8	3.9	3.5	3.5	3.2	12	20	7.0
29	8.1	3.9	3.2	2.6	---	4.4	3.4	2.6	3.2	36	15	7.0
30	10	3.9	3.2	2.6	---	4.0	1.8	375	3.0	17	10	6.6
31	6.0	---	3.2	2.7	---	4.2	---	79	---	12	10	---
TOTAL	215.5	272.7	107.0	91.1	68.2	110.3	104.4	537.9	147.5	465.5	3464.0	233.6
MEAN	6.95	9.09	3.45	2.94	2.44	3.56	3.48	17.4	4.92	15.0	112	7.79
MAX	10	28	3.9	3.5	2.8	10	5.3	375	24	101	757	12
MIN	5.2	3.8	3.1	2.6	2.2	2.3	1.8	2.0	2.6	2.0	8.0	6.6
AC-FT	427	541	212	181	135	219	207	1070	293	923	6870	463

CAL YR 1980 TOTAL 9935.5 MEAN 27.1 MAX 339 MIN 2.4 AC-FT 19710
WTR YR 1981 TOTAL 5817.7 MEAN 15.9 MAX 757 MIN 1.8 AC-FT 11540

07119700 ARKANSAS RIVER AT CATLIN DAM, NEAR FOWLER, CO

LOCATION.--Lat 38°07'33", long 103°54'41", in NW¼NW¼ sec.21, T.22 S., R.58 W., Otero County, Hydrologic Unit 11020005, 600 ft (180 m) downstream from gage on Catlin Canal, on right bank 2.2 mi (3.5 km) downstream from diversion dam for Catlin Canal, 2.3 mi (3.7 km) downstream from Apishapa River, and 6.0 mi (9.7 km) east of Fowler.

DRAINAGE AREA.--10,901 mi^2 (28,234 km^2), of which 54 mi^2 (140 km^2) is probably noncontributing.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorders on river and on Catlin Canal. Datum of river gage is 4,245.92 ft (1,294.156 m) National Geodetic Vertical Datum of 1929. Datum of canal gage is 4,257.87 ft (1,297.799 m) NGVD. Prior to May 13, 1971, river gage at site 2.2 mi (3.5 km) upstream at datum 24.08 ft (7.340 m) higher and canal gage at site 1.7 mi (2.7 km) upstream at datum 3.26 ft (0.994 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Discharge computed by combining discharge of river below canal with that of Catlin Canal. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals, diversions for irrigation, and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--9 years (water years 1965-73), 636 ft^3/s (18.01 m^3/s), 460,800 acre-ft/yr (568 hm^3/yr), prior to completion of Pueblo Dam; 7 years (water years 1975-81), 579 ft^3/s (16.40 m^3/s), 419,500 acre-ft/yr (517 hm^3/yr), subsequent to completion of Pueblo Dam. The figure published in the 1980 report was in error; the correct figure is 6 years, (water years 1975-80), 607 ft^3/s (17.19 m^3/s), 439,800 acre-ft/yr (542 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,200 ft^3/s (1,220 m^3/s) June 18, 1965, gage height, 7.95 ft (2.423 m), site and datum then in use, from rating curve extended above 13,000 ft^3/s (370 m^3/s), on basis of flow-over-dam computation of peak flow; minimum daily, 30 ft^3/s (0.85 m^3/s) Sept. 12, 1974, Aug. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,910 ft^3/s (252 m^3/s) at 1500 Aug. 12, gage height, 7.85 ft (2.393 m); minimum daily, 68 ft^3/s (1.93 m^3/s) May 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	401	394	345	345	305	170	391	173	491	363	458	312
2	364	413	325	350	280	170	289	212	454	327	506	357
3	310	394	310	356	305	177	239	243	557	330	1680	262
4	323	369	305	356	315	185	209	297	1050	376	681	225
5	294	347	305	366	325	173	190	323	1020	425	419	252
6	283	335	310	366	315	140	177	384	1030	445	512	292
7	264	338	305	340	305	135	145	376	1020	343	2340	384
8	276	350	315	325	305	131	119	334	1060	296	936	492
9	271	364	320	320	315	128	104	261	1580	298	537	412
10	275	377	305	310	212	126	93	206	1670	178	1010	562
11	290	360	305	300	205	120	85	128	1630	117	2840	480
12	304	371	310	305	280	124	124	85	1810	106	4030	463
13	306	369	315	276	465	119	187	82	1680	196	2070	492
14	291	360	320	310	565	113	215	102	1190	212	727	558
15	286	407	340	310	484	117	238	111	882	325	760	569
16	291	394	330	300	447	181	276	138	754	305	973	428
17	290	361	330	305	423	202	287	158	728	368	2810	361
18	316	356	335	305	400	246	257	140	450	577	959	402
19	337	325	330	300	388	282	257	104	265	741	634	407
20	365	330	315	305	400	299	255	98	317	1070	792	399
21	361	325	320	330	335	309	250	87	269	751	632	341
22	363	325	320	315	260	327	254	75	340	685	463	305
23	374	325	325	320	220	344	247	72	308	681	418	323
24	397	325	315	296	180	360	237	68	304	660	522	312
25	403	335	300	300	170	342	240	72	230	564	425	312
26	387	315	305	300	169	352	235	85	384	595	319	287
27	366	340	310	300	189	360	226	102	376	651	519	262
28	362	330	330	315	184	358	149	138	432	551	693	258
29	391	345	340	315	---	415	145	276	440	622	421	243
30	393	356	340	325	---	442	170	1130	429	689	363	223
31	379	---	345	325	---	441	---	514	---	560	347	---
TOTAL	10313	10635	9925	9891	8746	7394	6290	6574	23150	14407	30796	10975
MEAN	333	355	320	319	312	239	210	212	772	465	993	366
MAX	403	413	345	366	565	442	391	1130	1810	1070	4030	569
MIN	264	315	300	276	169	113	85	68	230	106	319	223
AC-FT	20460	21090	19690	19620	17350	14670	12480	13040	45920	28580	61080	21770

CAL YR 1980 TOTAL 396935 MEAN 1085 MAX 5460 MIN 239 AC-FT 787300
WTR YR 1981 TOTAL 149096 MEAN 408 MAX 4030 MIN 68 AC-FT 295700

07121500 TIMPAS CREEK AT MOUTH, NEAR SWINK, CO

LOCATION.--Lat 38°00'11", long 103°39'20", in NW¼SW¼ sec.35, T.23 S., R.56 W., Otero County, Hydrologic Unit 11020005, on left bank 40 ft (12 m) shoreward, 125 ft (38 m) upstream from left end of 20th Rd. Bridge, 1.7 mi (2.7 km) southwest of Swink, and 2.9 mi (4.7 km) upstream from mouth.

DRAINAGE AREA.--496 mi^2 (1,285 km^2).

PERIOD OF RECORD.--January 1922 to September 1925, March 1968 to current year.

REVISED RECORDS.--WDR CO 76-1: 1975.

GAGE.--Water-stage recorder. Altitude of gage is 4,120 ft (1,256 m), from topographic map. Prior to May 29, 1975, at site 140 ft (43 m) downstream at datum 0.13 ft (0.040 m) lower.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Natural flow of stream affected by minor diversions above station for irrigation, water imported from Arkansas River and Crooked Arroyo for irrigation above station, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--16 years (water years 1923-25, 1969-81), 62.0 ft^3/s (1.756 m^3/s), 44,920 acre-ft/yr (55.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,300 ft^3/s (348 m^3/s) July 10, 1978, gage height, 21.11 ft (6.434 m), from floodmark, from rating curve extended above 250 ft^3/s (7.1 m^3/s) on basis of contracted-opening measurement of peak flow; minimum daily, 3.3 ft^3/s (0.093 m^3/s) Aug. 7, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1922, 21,400 ft^3/s (606 m^3/s) June 17, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,610 ft^3/s (45.6 m^3/s) at 1100 Aug. 11, gage height, 10.40 ft (3.170 m), from floodmark, from rating curve extended above 250 ft^3/s (7.1 m^3/s) on the basis of contracted-opening measurement of peak flow; minimum daily, 8.3 ft^3/s (0.24 m^3/s) May 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	80	40	25	25	27	39	8.3	58	30	18	49
2	44	80	40	25	23	21	29	8.3	35	21	10	52
3	78	80	40	30	22	23	23	11	27	19	36	49
4	46	80	40	30	23	51	27	12	30	22	33	38
5	58	80	39	30	22	21	29	9.8	30	25	45	33
6	58	80	37	30	22	26	26	10	31	24	20	39
7	63	90	23	30	21	42	19	18	22	18	46	43
8	68	100	24	37	21	33	17	19	38	10	38	43
9	74	100	41	44	19	32	17	17	23	12	23	52
10	57	100	36	54	18	17	16	9.4	23	10	50	47
11	53	90	34	25	18	14	13	9.0	20	14	384	64
12	53	90	32	20	18	12	13	9.0	20	10	86	59
13	61	90	31	20	19	9.2	19	10	17	11	56	57
14	79	80	32	22	18	8.7	13	12	21	11	67	63
15	90	80	32	31	18	8.6	19	12	25	11	80	64
16	63	80	32	53	21	24	21	12	24	12	161	75
17	56	80	34	33	29	21	18	10	26	10	370	86
18	48	70	32	20	49	34	19	10	22	11	150	71
19	37	65	32	25	46	20	20	18	16	16	90	70
20	51	60	30	32	47	16	22	20	17	41	80	20
21	58	60	32	30	31	20	20	20	17	29	70	47
22	88	55	35	29	25	17	21	16	20	23	70	40
23	90	50	32	29	24	38	22	13	18	15	65	35
24	90	50	32	44	25	23	17	11	18	14	60	31
25	90	50	27	42	19	28	15	9.5	18	13	50	25
26	80	45	25	40	25	25	16	14	17	17	60	29
27	70	40	25	37	27	29	12	18	30	32	60	35
28	70	40	25	52	31	35	12	11	19	30	57	33
29	70	40	25	52	---	29	14	11	24	21	64	40
30	80	40	25	28	---	27	13	20	28	29	37	37
31	80	---	25	25	---	36	---	45	---	26	55	---
TOTAL	2048	2125	989	1024	706	767.5	581	433.3	734	587	2491	1426
MEAN	66.1	70.8	31.9	33.0	25.2	24.8	19.4	14.0	24.5	18.9	80.4	47.5
MAX	90	100	41	54	49	51	39	45	58	41	384	86
MIN	37	40	23	20	18	8.6	12	8.3	16	10	10	20
AC-FT	4060	4210	1960	2030	1400	1520	1150	859	1460	1160	4940	2830

CAL YR 1980 TOTAL 19723.6 MEAN 53.9 MAX 471 MIN 6.8 AC-FT 39120
WTR YR 1981 TOTAL 13911.8 MEAN 38.1 MAX 384 MIN 8.3 AC-FT 27590

NOTE.--NO GAGE-HEIGHT RECORD OCT. 23 TO DEC. 4.

07122400 CROOKED ARROYO NEAR SWINK, CO

LOCATION.--Lat 37°58'56", long 103°35'52", in SW¼SW¼ sec.5, T.24 S., R.55 W., Otero County, Hydrologic Unit 11020005, on right bank 54 ft (16 m) downstream from bridge on State Highway 10, 2.0 mi (3.2 km) upstream from mouth, and 2.8 mi (4.5 km) southeast of Swink.

DRAINAGE AREA.--108 mi^2 (280 km^2).

PERIOD OF RECORD.--February 1968 to current year.

REVISED RECORDS.--WDR CO 76-1: 1975.

GAGE.--Water-stage recorder. Altitude of gage is 4,100 ft (1,250 m), from topographic map.

REMARKS.--Records good except those above 80 ft^3/s (2.27 m^3/s) which are fair. Natural flow of stream affected by minor diversions above station for irrigation, water exported above station to Timpas Creek, water imported from Arkansas River for irrigation above station, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--13 years, 10.7 ft^3/s (0.303 m^3/s), 7,750 acre-ft/yr (9.56 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 ft^3/s (34.0 m^3/s) Aug. 7, 1971, gage height, 7.91 ft (2.411 m), from rating curve extended above 87 ft^3/s (2.5 m^3/s); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 70 ft^3/s (1.98 m^3/s) at 0200 May 17, gage height, 2.83 ft (0.862 m), from rating curve extended above 40 ft^3/s (1.13 m^3/s) on basis of slope-area measurement of peak flow; minimum daily, 0.01 ft^3/s (0.001 m^3/s) May 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	23	2.6	1.9	1.9	1.1	4.0	.84	4.5	4.8	.42	14
2	12	24	2.7	1.7	1.9	1.1	6.0	.85	3.1	6.9	2.2	5.4
3	15	25	2.6	1.7	1.9	.41	4.3	.98	2.4	4.2	6.0	18
4	23	30	2.5	1.7	1.8	.24	3.6	.61	2.6	5.1	13	5.6
5	17	25	2.3	1.7	1.7	.23	1.8	.39	4.0	5.4	9.5	2.2
6	18	25	2.1	1.7	1.8	.65	1.6	.01	4.8	3.1	2.6	4.0
7	16	30	2.1	1.8	1.7	.36	1.1	.02	2.2	2.6	6.9	2.2
8	19	40	1.9	1.9	1.6	.50	.41	.20	2.2	6.0	20	11
9	16	50	1.9	1.6	1.6	.36	.41	1.1	2.6	2.1	22	26
10	15	40	2.2	1.3	1.6	.29	.41	.03	2.6	.90	16	16
11	20	30	2.2	1.4	1.5	.54	.41	.02	3.0	.16	10	18
12	23	25	2.2	1.5	1.5	.81	.12	.02	3.7	2.1	27	24
13	21	35	2.1	1.6	1.5	1.1	.37	.08	3.1	1.0	20	32
14	15	30	2.5	1.5	1.5	.67	11	.38	5.1	.33	9.0	26
15	16	20	2.4	1.5	1.4	1.1	4.4	.17	7.9	.33	10	21
16	25	12	2.2	1.3	1.3	1.3	4.0	.20	3.4	.33	14	22
17	19	8.0	2.2	1.4	1.3	.31	1.3	7.6	4.2	.33	17	25
18	15	5.2	2.1	1.5	1.3	1.2	2.9	.96	2.6	.36	14	9.2
19	21	4.2	2.1	1.5	1.3	.19	4.6	.91	4.2	.48	12	15
20	14	3.6	1.7	1.6	1.3	.14	2.1	.08	1.1	2.6	10	24
21	31	3.3	1.7	1.4	1.3	28	3.5	.08	1.5	1.9	9.4	19
22	32	3.1	1.8	1.3	1.2	21	1.6	.07	.93	.75	9.3	5.1
23	30	2.9	1.9	2.1	1.2	8.7	2.2	.06	1.3	5.6	10	2.6
24	32	2.9	1.7	1.9	1.2	4.0	2.6	.06	1.4	2.1	8.5	9.5
25	31	2.6	1.8	1.9	1.2	5.1	2.0	.06	.40	8.2	4.2	8.2
26	38	2.5	1.9	1.9	1.2	3.6	5.6	.05	.02	12	6.3	1.9
27	32	2.5	1.9	2.0	1.1	2.8	8.3	.03	1.4	8.5	6.3	1.0
28	20	2.5	1.9	2.0	1.1	6.5	7.5	.03	3.4	4.5	9.5	.74
29	24	2.5	2.1	2.1	---	10	2.3	.03	2.2	14	18	.75
30	29	3.0	2.0	2.2	---	5.1	.96	.22	4.5	1.7	35	.66
31	25	---	1.9	2.0	---	6.5	---	3.7	---	1.4	31	---
TOTAL	672.8	512.8	65.2	52.6	40.9	113.90	91.39	19.84	86.35	109.77	389.12	370.05
MEAN	21.7	17.1	2.10	1.70	1.46	3.67	3.05	.64	2.88	3.54	12.6	12.3
MAX	38	50	2.7	2.2	1.9	28	11	7.6	7.9	14	35	32
MIN	8.8	2.5	1.7	1.3	1.1	.14	.12	.01	.02	.16	.42	.66
AC-FT	1330	1020	129	104	81	226	181	39	171	218	772	734

CAL YR 1980 TOTAL 5505.55 MEAN 15.0 MAX 58 MIN .71 AC-FT 10920
WTR YR 1981 TOTAL 2524.72 MEAN 6.92 MAX 50 MIN .01 AC-FT 5010

07123000 ARKANSAS RIVER AT LA JUNTA, CO

LOCATION.--Lat 37°59'26", long 103°31'55", in SE¼NE¼ sec.2, T.24 S., R.55 W., Otero County, Hydrologic Unit 11020005, on right bank at upstream side of bridge on State Highway 109 in La Junta, 450 ft (140 m) upstream from King Arroyo.

DRAINAGE AREA.--12,210 mi² (31,624 km²), of which 115 mi² (298 km²) is probably noncontributing.

PERIOD OF RECORD.--May to August 1889, September 1893 to December 1895 (gage heights, discharge measurements, and flood data only), April to October 1903, June to November 1908 (gage heights and discharge measurements only), April 1912 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "near La Junta" in 1903.

REVISED RECORDS.--WSP 1341: Drainage area. WSP 1731: 1922.

GAGE.--Water-stage recorder and nonrecording gage read twice daily. Datum of gage is 4,039.60 ft (1,231.270 m) National Geodetic Vertical Datum of 1929. See WSP 1711 or 1731 for history of changes prior to June 13, 1940. June 13, 1940, to June 6, 1967, water-stage recorder at site 300 ft (90 m) upstream at present datum.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 400,000 acres (1,620 km²), and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 200,000 ft³/s (5,660 m³/s) June 4, 1921, gage height, 18.4 ft (5.61 m), site and datum then in use, from rating curve extended above 15,000 ft³/s (420 m³/s), on basis of slope-area measurement of peak flow; no flow Jan. 20-23, Mar. 20-22, 1915.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,690 ft³/s (189 m³/s) at 2030 Aug. 12, gage height, 8.89 ft (2.710 m); minimum daily, 5.9 ft³/s (1.80 m³/s) May 26, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	49	170	159	70	89	55	42	70	92	143	82
2	176	51	159	166	72	84	36	44	115	68	124	92
3	136	57	166	166	75	82	27	36	140	25	242	113
4	108	51	170	162	99	121	28	36	231	35	468	87
5	105	51	156	159	127	94	31	40	418	80	214	70
6	102	44	149	149	118	87	27	45	270	70	108	92
7	87	45	143	136	89	105	18	49	315	24	588	82
8	57	44	133	149	75	99	18	49	326	18	406	92
9	38	51	127	152	70	94	12	10	471	11	80	124
10	35	49	116	149	70	97	13	20	773	21	75	159
11	38	42	124	152	70	94	9.6	13	684	16	765	184
12	49	38	130	156	75	92	10	11	718	7.9	1430	184
13	60	33	133	162	80	75	9.6	9.0	650	7.5	522	170
14	64	40	133	140	87	44	13	9.0	594	7.1	82	72
15	64	57	130	121	72	36	11	9.6	393	12	89	92
16	72	64	130	127	64	33	11	12	370	38	92	89
17	66	62	130	121	72	31	9.6	17	290	51	345	77
18	55	35	127	116	89	30	12	12	226	44	177	60
19	84	28	127	118	92	36	9.6	9.6	66	175	75	130
20	105	23	118	110	87	44	12	9.0	31	275	62	180
21	110	21	118	99	72	47	13	8.4	80	391	115	149
22	110	20	133	99	72	55	11	7.9	72	81	70	99
23	110	81	140	97	80	42	11	7.5	94	25	64	60
24	118	191	136	102	92	30	10	7.9	75	12	72	72
25	140	195	159	102	94	36	11	6.7	68	46	82	70
26	159	184	140	99	80	36	21	5.9	28	72	77	68
27	170	173	127	99	80	31	53	5.9	35	156	75	72
28	102	210	113	102	87	38	44	6.7	47	170	80	70
29	64	187	108	102	---	55	44	7.9	89	108	99	60
30	55	176	124	77	---	42	40	22	82	173	84	55
31	47	---	152	72	---	49	---	110	---	176	70	---
TOTAL	2819	2352	4221	3920	2310	1928	630.4	679.0	7821	2487.5	6975	3006
MEAN	90.9	78.4	136	126	82.5	62.2	21.0	21.9	261	80.2	225	100
MAX	176	210	170	166	127	121	55	110	773	391	1430	184
MIN	35	20	108	72	64	30	9.6	5.9	28	7.1	62	55
AC-FT	5590	4670	8370	7780	4580	3820	1250	1350	15510	4930	13830	5960

CAL YR 1980 TOTAL 157919.0 MEAN 431 MAX 4940 MIN 18 AC-FT 313200
WTR YR 1981 TOTAL 39148.9 MEAN 107 MAX 1430 MIN 5.9 AC-FT 77650

07123675 HORSE CREEK NEAR LAS ANIMAS, CO

LOCATION.--Lat 38°05'06", long 103°21'12", in SE¼SW¼ sec.33, T.22 S., R.53 W., Bent County, Hydrologic Unit 11020008, 15 ft (5 m) right of right upstream end of box culverts on State Highway 194, 3.2 mi (5.1 km) upstream of mouth, 3.4 mi (5.5 km) downstream from Fort Lyon Canal Aqueduct, and 7.5 mi (12.1 km) west of Las Animas.

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,975 ft (1,212 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by seepage and sluicing from Fort Lyon Canal. There is some irrigation upstream, however, amounts are unknown. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 176 ft³/s (4.98 m³/s) May 18, 1980, gage height, 3.42 ft (1.042 m); no flow many days in 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17 ft³/s (0.48 m³/s) at 0430 Aug. 17, gage height, 1.81 ft (0.552 m); maximum gage height, 1.89 ft (0.576 m) at 1015 Feb. 10 (backwater from ice); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	3.1	6.7	4.4	2.9	2.9	8.8	2.7	2.6	.92	.00	2.0
2	1.7	3.1	6.0	3.8	2.8	2.8	8.4	2.9	2.1	.83	.00	1.9
3	1.7	2.9	5.8	3.7	2.8	4.0	7.8	2.8	1.5	.83	.00	1.8
4	1.6	4.4	5.8	3.5	3.0	5.4	7.3	3.4	2.9	.66	.15	1.8
5	1.6	3.6	5.9	3.5	3.5	5.5	8.1	3.2	2.4	.66	.66	1.7
6	2.2	3.3	5.8	3.5	3.1	5.8	8.4	3.2	2.2	.40	.48	1.7
7	2.7	3.3	5.8	3.5	3.1	5.5	8.2	3.4	2.0	.18	.18	1.8
8	2.5	3.1	5.8	3.5	3.1	5.5	6.6	2.8	2.1	.12	.07	1.7
9	2.3	3.1	5.8	3.5	3.1	5.8	3.3	2.6	1.9	.12	.48	1.7
10	2.0	2.9	5.5	3.3	3.0	5.6	3.7	2.6	1.9	.06	.58	1.7
11	2.1	3.0	5.5	3.3	3.0	5.5	4.3	3.7	4.8	.02	3.6	1.7
12	3.7	3.1	5.7	3.1	3.0	5.8	4.4	3.5	3.4	.00	11	1.8
13	3.9	3.1	5.2	3.1	3.1	6.1	4.6	4.3	1.6	.00	7.1	2.1
14	2.7	3.1	5.1	3.1	3.1	5.5	4.4	4.8	1.3	.00	7.4	2.4
15	2.5	4.7	5.5	3.1	3.2	4.7	4.5	4.2	1.4	.00	4.3	3.0
16	2.7	4.7	5.4	3.2	3.3	3.1	7.3	3.4	1.4	.00	6.7	3.7
17	2.8	4.2	5.6	3.3	3.2	3.2	5.6	4.2	1.3	.00	13	4.3
18	2.9	3.7	5.5	3.3	2.9	3.1	4.5	4.4	1.1	.00	8.7	4.8
19	2.7	4.0	5.4	3.3	2.9	2.9	4.1	3.7	2.2	.00	7.0	5.3
20	2.7	4.5	4.9	3.3	3.0	5.0	3.9	2.9	2.7	.00	7.2	5.5
21	2.5	5.0	4.8	3.8	3.1	4.9	4.2	2.7	2.8	.06	6.4	5.9
22	2.5	4.9	4.9	3.7	3.1	4.0	3.7	2.4	1.4	.03	4.2	7.9
23	2.3	4.9	5.2	3.7	2.9	4.7	3.2	2.3	.92	.00	8.2	12
24	2.3	4.2	5.2	3.7	2.9	3.9	4.1	1.9	.83	.00	8.3	5.5
25	2.5	3.0	5.1	3.7	2.9	3.7	4.7	1.6	.83	.00	5.1	2.2
26	2.5	2.9	4.8	3.5	2.9	3.4	3.5	1.4	.74	.00	2.9	1.7
27	3.0	3.6	5.1	3.7	2.9	3.3	3.2	1.3	.66	.05	2.5	1.6
28	3.0	5.0	5.3	3.7	2.9	5.1	3.1	1.4	.58	.07	2.3	1.6
29	3.8	5.4	5.1	3.0	---	7.7	2.7	1.4	.92	.05	3.7	1.6
30	4.2	6.2	5.2	2.9	---	8.0	2.7	1.5	1.2	.02	5.4	1.5
31	4.1	---	4.8	2.9	---	7.6	---	2.2	---	.00	2.2	---
TOTAL	81.3	116.0	168.2	106.6	84.7	150.0	153.3	88.8	53.68	5.08	129.80	93.9
MEAN	2.62	3.87	5.43	3.44	3.03	4.84	5.11	2.86	1.79	.16	4.19	3.13
MAX	4.2	6.2	6.7	4.4	3.5	8.0	8.8	4.8	4.8	.92	13	12
MIN	1.6	2.9	4.8	2.9	2.8	2.8	2.7	1.3	.58	.00	.00	1.5
AC-FT	161	230	334	211	168	298	304	176	106	10	257	186

CAL YR 1980 TOTAL 5533.80 MEAN 15.1 MAX 170 MIN 1.2 AC-FT 10980
WTR YR 1981 TOTAL 1231.36 MEAN 3.37 MAX 13 MIN .00 AC-FT 2440

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO

LOCATION.--Lat 38°04'51", long 103°13'09", in SE¼NE¼ sec.3, T.23 S., R.52 W., Bent County, Hydrologic Unit 11020009, on right bank at upstream side of bridge on U.S. Highway 50, 1.1 mi (1.8 km) north of courthouse in Las Animas, and 4.2 mi (6.8 km) upstream from Purgatoire River.

DRAINAGE AREA.--14,417 mi^2 (37,340 km^2), of which 441 mi^2 (1,142 km^2) is probably noncontributing.

PERIOD OF RECORD.--May to November 1898 (gage heights only), August to November 1909 (gage heights and discharge measurements only), May 1939 to current year.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,883.97 ft (1,183.834 m), National Geodetic Vertical Datum of 1929. May 13 to Nov. 12, 1898, and Aug. 1 to Nov. 10, 1909, nonrecording gages near present site at different datums. May 23, 1939, to Apr. 27, 1967, water-stage recorder at site 0.4 mi (0.6 km) downstream at datum 9.00 ft (2.743 m) lower.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 412,000 acres (1,670 km^2), and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--34 years (water years 1940-73), 203 ft^3/s (5.749 m^3/s), 147,100 acre-ft/yr (181 hm^3/yr), prior to completion of Pueblo Dam; 7 years (water years 1975-81), 144 ft^3/s (4.078 m^3/s), 104,300 acre-ft/yr (129 hm^3/yr), subsequent to completon of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,000 ft^3/s (1,250 m^3/s) May 20, 1955, gage height, 15.03 ft (4.581 m), site and datum then in use, from rating curve extended above 24,000 ft^3/s (680 m^3/s), on basis of slope-area measurement of peak flow; minimum daily, 0.9 ft^3/s (0.025 m^3/s) July 31, Aug. 1, 3, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,900 ft^3/s (82.1 m^3/s) at 0330 Aug. 13, gage height, 5.13 ft (1.564 m); minimum daily, 12 ft^3/s (0.34 m^3/s) May 12, 15, 17, 30, July 13-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	54	161	160	117	97	27	17	15	22	63	28
2	88	48	147	160	108	98	24	16	13	20	32	31
3	123	44	144	161	108	94	23	16	28	19	21	38
4	103	45	134	164	109	110	23	16	67	17	202	49
5	74	48	137	172	118	126	23	17	232	17	217	39
6	67	44	142	171	136	103	23	17	164	16	82	29
7	71	38	148	157	130	96	23	17	149	16	42	32
8	57	32	161	155	116	107	25	16	214	16	612	30
9	50	31	157	152	115	111	25	17	189	15	100	30
10	40	33	151	155	115	104	23	14	475	14	39	52
11	33	43	134	152	115	97	21	13	525	14	262	71
12	33	37	136	158	110	91	21	12	511	13	487	84
13	33	34	135	163	110	89	21	14	501	12	1150	89
14	32	34	141	157	110	82	20	13	465	12	297	65
15	39	66	140	138	110	58	19	12	389	12	72	48
16	32	74	142	138	95	33	20	13	323	13	61	45
17	36	67	137	135	97	31	20	12	291	14	58	35
18	33	65	136	135	93	29	21	13	217	15	643	26
19	33	58	139	135	104	26	20	13	146	16	78	24
20	36	50	130	134	113	26	19	13	74	45	51	44
21	47	47	124	127	115	30	19	13	48	119	38	64
22	54	47	136	121	110	30	19	13	47	162	42	54
23	56	54	140	116	98	28	18	13	47	44	33	29
24	58	107	148	115	96	26	17	14	44	19	29	22
25	72	167	150	120	104	25	17	14	36	17	28	19
26	91	171	150	117	109	25	17	14	31	26	27	18
27	102	175	154	116	94	24	17	13	26	35	26	17
28	110	172	137	120	96	26	17	13	24	47	28	17
29	89	185	136	126	---	28	17	13	24	46	27	16
30	47	171	138	131	---	29	17	12	23	33	34	16
31	52	---	157	129	---	28	---	13	---	60	34	---
TOTAL	1862	2241	4422	4390	3051	1907	616	436	5338	946	4915	1161
MEAN	60.1	74.7	143	142	109	61.5	20.5	14.1	178	30.5	159	38.7
MAX	123	185	161	172	136	126	27	17	525	162	1150	89
MIN	32	31	124	115	93	24	17	12	13	12	21	16
AC-FT	3690	4450	8770	8710	6050	3780	1220	865	10590	1880	9750	2300

CAL YR 1980 TOTAL 147905 MEAN 404 MAX 5240 MIN 17 AC-FT 293400
WTR YR 1981 TOTAL 31285 MEAN 85.7 MAX 1150 MIN 12 AC-FT 62050

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO

LOCATION.--Lat 37°09'10", long 105°00'45", Las Animas County, Hydrologic Unit 11020010, Maxwell Grant, on right bank, 0.3 mi (0.5 km) east of Stonewall, 0.6 mi (1.0 km) upstream from Crooked Creek, and 7 mi (11 km) northeast of Torres.

DRAINAGE AREA.--52.1 mi^2 (134.9 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to September 1981 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 7,710 ft (2,350 m), from topographic map. Prior to June 14, 1978 at present site at datum 2.70 ft (0.82 m) lower.

REMARKS.--Records good except those for winter period and those above 150 ft^3/s (4.2 m^3/s), which are fair. Some diversions for irrigation above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 522 ft^3/s (14.8 m^3/s) Sept. 7, 1981, gage height, 6.65 ft (2.027 m), from rating curve extended above 120 ft^3/s (3.4 m^3/s); minimum daily, 2.8 ft^3/s (0.79 m^3/s) Mar. 17, 18, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft^3/s (2.8 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
July 1	0630	180	5.10	5.60	1.707	Aug. 27	1600	110	3.12	5.25	1.600
Aug. 11	2100	154	4.36	5.47	1.667	Sept. 7	0400	*522	14.8	6.65	2.027

Minimum daily discharge, 3.4 ft^3/s (0.096 m^3/s) Feb. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	5.6	5.8	5.1	5.5	3.8	4.5	15	18	19	15	29
2	5.6	5.5	6.2	6.2	6.0	3.8	4.1	16	14	18	15	25
3	5.6	5.5	5.8	4.8	7.0	3.9	3.8	18	15	59	17	28
4	5.6	5.4	5.4	5.5	7.0	4.0	3.6	16	16	25	17	31
5	5.6	5.7	5.2	5.4	7.0	5.6	5.3	16	16	19	15	26
6	5.6	5.7	5.2	3.6	6.0	4.1	4.1	16	23	17	19	24
7	5.5	5.6	5.0	3.5	5.5	4.1	3.8	15	28	17	19	127
8	5.2	5.3	4.4	3.5	5.0	4.9	3.8	13	28	18	25	47
9	5.5	5.0	4.4	3.5	4.5	5.0	4.1	12	30	16	22	44
10	5.4	5.3	4.4	4.0	3.5	6.0	4.4	11	30	15	28	45
11	5.3	5.3	5.0	4.5	3.5	7.6	5.0	8.9	28	18	74	50
12	4.9	5.2	5.0	5.0	3.5	5.3	4.4	8.4	29	22	77	63
13	3.9	5.0	5.0	5.0	3.4	5.1	4.8	8.5	25	20	47	57
14	3.9	5.2	5.5	5.0	4.0	6.4	5.0	8.6	22	17	39	57
15	8.1	5.2	5.9	6.0	4.5	5.8	4.8	8.6	19	17	40	52
16	5.7	5.1	5.7	7.0	5.0	5.5	4.1	8.5	15	16	41	52
17	5.8	5.0	5.7	7.0	6.5	4.5	4.1	8.0	17	30	42	51
18	5.9	5.0	6.1	7.0	5.5	4.6	4.4	7.6	19	21	45	47
19	5.9	5.0	5.4	7.0	4.4	6.3	3.8	7.9	23	17	41	41
20	5.9	5.0	5.4	7.0	4.2	5.8	4.1	8.2	22	15	37	41
21	5.8	5.0	5.4	7.0	4.2	5.5	4.1	8.3	22	14	36	39
22	5.8	5.5	5.7	7.0	8.0	5.0	4.4	7.8	22	16	36	37
23	5.9	6.0	4.7	7.0	6.2	4.7	4.6	6.7	22	15	32	36
24	6.3	6.4	4.7	6.7	5.6	4.6	4.8	6.7	21	14	30	34
25	6.0	6.0	5.3	6.5	4.5	4.8	6.4	5.4	19	13	29	32
26	6.0	6.0	4.4	6.0	4.0	4.8	8.2	6.2	20	18	29	30
27	5.9	6.0	4.4	6.0	4.0	4.7	8.9	7.6	19	19	44	30
28	5.8	6.0	4.7	6.0	4.0	4.7	8.8	11	20	16	36	29
29	5.8	6.0	4.8	6.0	---	4.4	9.0	14	22	14	33	26
30	5.9	6.0	5.2	6.0	---	4.4	12	17	39	14	29	25
31	5.7	---	5.2	5.7	---	4.8	---	14	---	14	27	---
TOTAL	175.5	164.5	161.0	175.5	142.0	154.5	157.2	335.9	663	583	1036	1255
MEAN	5.66	5.48	5.19	5.66	5.07	4.98	5.24	10.8	22.1	18.8	33.4	41.8
MAX	8.1	6.4	6.2	7.0	8.0	7.6	12	18	39	59	77	127
MIN	3.9	5.0	4.4	3.5	3.4	3.8	3.6	5.4	14	13	15	24
AC-FT	348	326	319	348	282	306	312	666	1320	1160	2050	2490

CAL YR 1980 TOTAL 8778.1 MEAN 24.0 MAX 158 MIN 2.9 AC-FT 17410
WTR YR 1981 TOTAL 5003.1 MEAN 13.7 MAX 127 MIN 3.4 AC-FT 9920

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1978 to September 1981 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1978 to September 1981 (discontinued).
WATER TEMPERATURES: October 1978 to September 1981 (discontinued).
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1981 (seasonal only) (discontinued).

INSTRUMENTATION.--Water-quality monitor since July 1978. Pumping sediment sampler since July 1978.

REMARKS.--Sediment-discharge data for the 1980 water year is published in this report. Sediment-discharge data for 1981 is considered fair and for 1980, poor. No specific conductance or temperature record Oct. 1-Jan. 19.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 543 micromhos Nov. 21, 1979; minimum, 107 micromhos June 23, 1981.
WATER TEMPERATURES: Maximum, 22.9°C July 3, 1981; minimum, 0.0°C on many days during winter months.
SEDIMENT CONCENTRATIONS: Maximum daily, 1,580 mg/L Aug. 11, 1981; minimum daily, 3 mg/L Aug. 6, 1980.
SEDIMENT LOADS: Maximum daily, 1,160 tons (1,050 t) Sept. 7, 1981; minimum daily, 0.02 ton (0.018 t) Sept. 28-30, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 489 micromhos Jan. 28; minimum, 107 micromhos June 23.
WATER TEMPERATURES: Maximum, 22.0°C July 3; minium, 0.0°C on many days during November to April.
SEDIMENT CONCENTRATIONS: Maximum daily, 1,580 mg/L Aug. 11; minimum daily, 6 mg/L on many days.
SEDIMENT LOADS: Maximum daily, 1,160 tons (1,050 t) Sept. 7; minimum daily, 0.05 ton (0.045 t) on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
MAR 17...	1230	3.8	353	379	7.7	5.5	9.6	170	50	11	12
AUG 11...	1745	106	230	--	--	12.5	--	--	--	--	--

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
MAR 17...	.4	1.3	120	62	1.8	.2	7.8	219	.30	2.3	.08
AUG 11...	--	--	--	--	--	--	--	--	--	--	--

DATE	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
MAR 17...	.000	70	0	0	1	0	0	<1	--	--
AUG 11...	--	100000	--	3	--	--	0	--	160	28

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
MAR 17...	2	1	70	20	4	4	20	20	.1	.0
AUG 11...	130	--	43000	--	47	--	260	--	.2	--

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
MAR										
17...	2	<10	1	0	0	0	0	10	6.2	4.4
AUG										
11...	2	--	54	--	3	--	240	--	--	--

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
JUN					AUG				
17...	1527	14	10	.38	07...	1115	18	12	.58
18...	1045	20	14	.76	11...	1737	108	3670	1070
30...	1400	31	14	1.2	11...	1745	106	3670	1050
JUL					26...	1334	31	5	.42
22...	1505	16	6	.26					
30...	1547	13	7	.25					

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	311	364	313	197	166	159	195	202
2				---	288	370	307	203	161	186	196	205
3				---	304	383	300	184	161	228	199	207
4				---	328	379	310	181	159	209	206	225
5				---	328	390	329	201	145	189	204	230
6				---	349	367	314	212	157	176	206	223
7				---	343	354	310	203	157	173	224	260
8				---	346	366	302	200	152	186	233	277
9				---	318	356	299	204	154	192	259	253
10				---	335	363	293	210	160	188	258	258
11				---	318	371	287	213	167	200	247	242
12				---	320	359	287	212	170	225	202	251
13				---	369	368	287	210	165	251	186	239
14				---	400	369	303	213	159	238	180	244
15				---	398	366	315	214	157	219	179	238
16				---	396	378	307	213	158	212	180	239
17				---	382	390	289	209	153	204	181	240
18				---	369	388	277	211	146	209	190	233
19				---	370	414	287	211	147	200	194	231
20				270	367	434	277	213	135	199	180	231
21				304	363	386	271	212	135	198	181	230
22				289	405	368	262	209	134	188	182	231
23				280	400	361	264	206	125	191	180	237
24				309	382	354	258	206	139	191	180	239
25				352	369	363	249	209	138	191	180	238
26				346	363	353	237	204	141	196	180	237
27				340	353	337	229	194	144	193	185	235
28				379	357	324	226	177	144	190	204	237
29				347	---	325	228	171	140	190	212	239
30				351	---	321	211	199	142	192	193	240
31				330	---	314	---	184	---	194	202	---

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1							---	---	.0	.0	7.0	.5
2							---	---	.0	.0	7.0	.0
3							---	---	.0	.0	4.0	.0
4							---	---	.0	.0	7.0	.0
5							---	---	.0	.0	7.0	.0
6							---	---	.0	.0	6.0	.0
7							---	---	.0	.0	4.0	.0
8							---	---	.0	.0	2.5	.0
9							---	---	.0	.0	3.5	.0
10							---	---	.0	.0	3.5	.0
11							---	---	.0	.0	1.5	.0
12							---	---	.0	.0	7.5	.0
13							---	---	.0	.0	4.5	.0
14							---	---	.5	.0	4.0	.0
15							---	---	4.5	.0	8.0	.0
16							---	---	5.5	.0	8.0	.0
17							---	---	4.0	.0	6.5	.0
18							---	---	6.5	.0	8.5	.0
19							---	---	6.5	.0	9.0	.0
20							.0	.0	8.0	.0	9.0	.0
21							.0	.0	3.5	.0	5.5	.0
22							.0	.0	3.0	.0	7.5	.0
23							.0	.0	7.5	.0	10.5	.0
24							2.0	.0	8.0	.0	7.0	.0
25							.5	.0	9.0	.0	11.0	.0
26							.0	.0	8.0	.0	11.0	.5
27							.0	.0	5.5	.0	11.5	1.0
28							3.0	.0	4.0	.0	5.0	.5
29							2.0	.0	---	---	9.5	.0
30							.5	.0	---	---	11.5	.5
31							.0	.0	---	---	9.0	.0

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.5	.0	16.0	7.5	13.0	6.5	16.0	10.0	18.0	11.5	14.0	10.5
2	10.0	1.0	16.5	6.0	14.5	5.5	16.0	10.0	18.0	11.0	14.5	10.0
3	8.0	1.0	14.5	7.5	12.0	6.5	22.0	12.0	17.0	11.5	13.0	10.0
4	8.0	.0	14.0	6.5	13.5	5.0	17.0	12.0	18.0	11.0	13.0	10.0
5	11.0	.0	10.5	6.0	12.5	6.5	20.0	10.0	16.5	11.5	13.5	10.5
6	13.5	.0	14.5	5.0	17.5	7.5	18.0	9.5	18.5	11.0	13.0	10.0
7	13.5	2.0	14.5	4.5	16.0	8.0	18.5	11.0	16.5	12.5	12.0	10.0
8	13.0	1.5	11.0	3.0	17.0	8.0	19.0	10.5	17.5	12.0	12.5	8.5
9	15.5	1.5	10.5	2.0	17.0	8.0	19.5	10.0	16.0	10.5	13.5	7.5
10	16.0	3.0	13.5	1.5	16.5	8.5	18.5	10.5	15.0	11.0	14.0	8.5
11	15.5	3.0	14.0	3.0	16.5	8.0	18.5	11.5	14.0	11.0	12.5	8.0
12	13.5	2.5	11.0	4.0	16.0	8.0	17.5	11.0	14.5	11.0	13.5	7.0
13	12.0	5.0	7.5	5.0	15.5	7.5	18.0	10.5	15.0	9.5	10.0	7.5
14	8.5	3.0	14.5	2.5	15.0	7.5	15.0	11.5	14.5	10.0	13.0	6.5
15	13.5	2.0	10.5	5.5	13.5	6.5	16.5	11.5	12.0	10.0	12.5	7.0
16	16.5	3.5	15.0	4.5	15.0	5.0	18.5	10.5	14.0	9.5	9.0	8.5
17	15.5	3.5	12.5	4.0	13.0	6.5	16.0	10.5	13.0	9.0	12.0	8.0
18	10.5	4.0	10.5	5.0	15.5	6.0	17.5	11.0	14.5	8.5	12.5	5.5
19	14.0	3.5	13.5	4.5	17.0	6.0	19.0	10.0	14.0	8.5	12.0	5.5
20	14.5	5.0	16.5	5.0	19.0	8.0	20.0	10.0	13.5	8.5	14.0	6.5
21	16.0	3.5	16.0	5.5	19.5	9.0	20.5	10.5	14.5	8.5	14.0	7.0
22	15.0	4.0	15.5	5.0	19.5	9.0	17.5	10.5	14.0	10.5	11.0	7.5
23	16.5	2.5	13.0	5.5	17.5	9.5	16.5	12.0	13.5	8.0	11.5	7.0
24	14.0	3.5	13.0	6.0	15.5	9.5	20.5	11.5	15.0	8.5	12.5	7.0
25	17.5	4.5	17.5	5.5	18.5	9.0	17.5	11.0	16.0	9.0	13.0	6.5
26	17.5	6.0	16.0	7.0	18.5	9.5	16.5	12.0	15.0	9.0	13.5	7.5
27	13.5	6.5	18.0	7.5	17.5	9.5	20.0	11.0	13.0	8.5	13.5	5.5
28	12.0	5.0	13.0	8.0	16.5	10.0	19.5	10.5	12.5	8.0	14.0	6.5
29	18.0	5.0	11.5	6.5	14.0	10.5	18.5	11.0	14.0	9.0	14.0	7.5
30	18.0	6.0	13.0	7.0	16.0	9.0	17.5	10.0	14.0	10.0	12.5	8.0
31	---	---	14.5	5.5	---	---	18.0	10.0	14.0	11.0	---	---

07124056 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	3.8	---	.06	7.0	24	---	66	---	12
2	3.8	---	.07	7.5	24	---	64	---	11
3	3.8	---	.06	9.0	23	---	64	---	11
4	3.7	---	.24	9.0	26	---	65	---	12
5	3.6	31	---	5.7	24	---	68	---	13
6	3.8	---	.14	6.4	24	---	73	---	18
7	3.8	---	.11	8.5	25	---	78	---	22
8	4.4	---	.11	13	38	---	90	---	42
9	4.8	---	.12	15	30	---	77	---	23
10	4.8	---	.12	13	29	---	64	---	11
11	4.1	---	.09	11	42	---	63	---	10
12	3.6	---	.07	12	34	---	68	---	14
13	3.6	---	.08	12	15	---	74	---	18
14	4.1	---	.10	12	26	---	84	123	---
15	4.1	---	.09	13	23	---	85	---	30
16	4.8	---	.13	14	33	---	91	---	45
17	5.1	---	.16	20	54	---	78	---	25
18	5.7	16	---	21	70	---	79	---	26
19	6.0	24	---	23	72	---	73	95	---
20	5.7	29	---	28	80	---	66	---	13
21	5.7	30	---	37	---	8.3	62	---	9.7
22	5.7	30	---	32	---	3.6	63	---	9.9
23	6.4	34	---	36	---	5.3	65	---	11
24	6.0	35	---	44	---	8.0	77	---	20
25	5.7	28	---	48	---	8.3	79	---	24
26	5.4	25	---	64	---	18	78	---	21
27	5.4	20	---	64	---	18	79	---	23
28	6.7	22	---	66	---	19	80	---	25
29	6.4	21	---	78	128	---	82	---	27
30	6.7	23	---	80	---	28	80	---	25
31	---	---	---	71	96	---	---	---	---

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	85	---	30	24	---	1.4	14	---	.32
2	78	---	22	22	---	1.1	14	---	.28
3	71	---	15	21	---	1.0	13	---	.21
4	64	---	11	19	---	.87	13	---	.20
5	63	---	11	17	---	.69	12	---	.16
6	60	---	9.1	17	---	.69	12	---	.16
7	55	---	7.0	17	---	.69	13	---	.18
8	52	---	6.0	17	---	.69	12	---	.15
9	49	---	5.4	17	---	.69	12	---	.13
10	46	---	4.3	21	---	.96	11	---	.10
11	42	31	---	23	---	1.1	12	---	.10
12	39	---	3.3	21	---	.96	12	4	---
13	37	---	2.6	23	---	1.8	15	---	.28
14	37	---	2.5	85	---	49	20	---	.81
15	45	---	5.1	100	---	52	17	---	.46
16	45	---	5.5	62	---	14	15	---	.32
17	40	---	4.6	45	---	5.2	13	---	.19
18	40	---	4.5	39	---	4.2	12	---	.12
19	36	---	3.6	35	---	3.1	11	---	.08
20	32	---	2.8	30	---	2.3	11	---	.07
21	30	---	2.3	27	---	1.7	12	---	.11
22	30	---	2.2	24	20	---	12	---	.11
23	30	---	2.3	24	---	1.2	10	---	.06
24	29	---	2.1	22	---	1.0	9.5	---	.05
25	29	---	2.1	21	---	.85	9.0	---	.04
26	30	---	2.3	21	---	.85	8.0	---	.03
27	31	---	2.4	24	---	1.1	8.0	---	.03
28	30	---	2.3	19	---	.72	7.5	---	.02
29	29	---	2.0	20	---	.76	7.0	---	.02
30	28	---	1.9	19	---	.72	7.0	---	.02
31	27	---	1.8	16	---	.43	---	---	---
TOTAL	1339	---	179.0	892	---	151.77	354.0	---	4.81
YEAR	6609.8		1005.43						

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	4.5	---	.10	15	---	.35	18	---	.95
2	4.1	---	.10	16	---	.40	14	---	.55
3	3.8	---	.10	18	---	.45	15	---	.60
4	3.6	---	.05	16	---	.45	16	---	.50
5	5.3	---	.10	16	---	.45	16	---	.45
6	4.1	---	.10	16	---	.45	23	---	.75
7	3.8	8	.10	15	---	.40	28	---	1.1
8	3.8	---	.10	13	---	.35	28	---	1.1
9	4.1	---	.10	12	---	.35	30	---	1.2
10	4.4	---	.10	11	---	.30	30	---	.95
11	5.0	---	.10	8.9	11	.26	28	---	.85
12	4.4	---	.10	8.4	---	.25	29	---	.80
13	4.8	---	.10	8.5	---	.25	25	---	.65
14	5.0	---	.10	8.6	---	.25	22	---	.60
15	4.8	---	.10	8.6	---	.25	19	---	.50
16	4.1	---	.10	8.5	---	.25	15	---	.40
17	4.1	---	.05	8.0	---	.25	17	10	.46
18	4.4	---	.05	7.6	---	.20	19	22	1.1
19	3.8	---	.05	7.9	---	.25	23	39	2.4
20	4.1	---	.05	8.2	---	.25	22	41	2.4
21	4.1	6	.05	8.3	---	.25	22	---	2.3
22	4.4	---	.05	7.8	---	.25	22	---	1.8
23	4.6	---	.05	6.7	---	.20	22	---	1.5
24	4.8	---	.05	6.7	---	.20	21	---	1.1
25	6.4	---	.10	5.4	---	.15	19	---	1.0
26	8.2	---	.15	6.2	---	.20	20	---	.95
27	8.9	---	.15	7.6	---	.25	19	---	.80
28	8.8	---	.15	11	---	.35	20	---	.75
29	9.0	---	.20	14	---	.55	22	---	.85
30	12	---	.25	17	---	.70	39	102	11
31	---	---	---	14	---	.55	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	19	42	2.3	15	7	.28	29		1.6
2	18	33	1.6	15	7	.28	25		1.0
3	59	714	196	17	---	.35	28		2.3
4	25	---	17	17	---	.45	31		1.2
5	19	---	10	15	---	.40	26		1.0
6	17	---	6.9	19	---	.55	24		1.3
7	17	---	4.6	19	---	.60	127		1160
8	18	---	4.6	25	30	2.4	47		13
9	16	---	3.9	22	24	1.5	44		4.2
10	15	90	3.6	28	308	38	45		3.2
11	18	27	1.3	74	1580	414	50		23
12	22	26	1.5	77	430	108	63		5.8
13	20	35	1.9	47	---	4.9	57		3.8
14	17	8	.35	39	---	3.2	57		3.1
15	17	15	.70	40	---	2.7	52		2.1
16	16	15	.64	41	---	2.2	52		2.1
17	30	25	2.1	42	---	1.7	51		1.7
18	21	22	1.2	45	---	4.8	47		1.5
19	17	16	.76	41	---	1.1	41		1.3
20	15	11	.44	37	---	1.0	41		1.1
21	14	13	.49	36	---	.75	39		1.1
22	16	18	.77	36	---	.75	37		.80
23	15	9	.36	32	---	.50	36		.75
24	14	8	.30	30	---	.50	34		.55
25	13	11	.39	29	---	.45	32		.50
26	18	15	.75	29	---	.80	30		.50
27	19	10	.51	44	---	48	30		.50
28	16	12	.52	36	---	4.9	29		.45
29	14	8	.30	33	---	3.6	26		.40
30	14	11	.42	29	---	2.3	25		.40
31	14	7	.26	27	---	1.6	---		
TOTAL	583	---	266.46	1036	---	652.56	1255		1240.25
YEAR	5003.1		2212.64						

ARKANSAS RIVER BASIN

07124100 MOLINO CANYON NEAR WESTON, CO

LOCATION.--Lat 37°07'56", long 104°48'35", in NE¼NW¼ sec.32, T.33 S., R.66 W., Las Animas County, Hydrologic Unit 10020010, on right bank 600 ft (180 m) upstream from State Highway 12, 800 ft (240 m) upstream from mouth, and 2.2 mi (3.5 km) east of Weston.

DRAINAGE AREA.--4.23 mi² (10.96 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1978 to September 1981 (seasonal record only) (discontinued).

GAGE.--Water-stage recorder and supercritical-flow flume. Altitude of gage is 6,760 ft (2,060 m) from topographic map.

REMARKS.--Records good except those above 60 ft³/s (1.7 m³/s), which are fair. Gage was discontinued after being destroyed by rise Aug. 10, with recession flow estimated Aug. 11. Recording rain gage at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,100 ft³/s (144 m³/s) Aug. 10, 1981, gage height, 11.0 ft (3.353 m), from floodmark, from rating curve extended on basis of slope-area measurement of peak flow; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,100 ft³/s (144 m³/s) at 1700 Aug. 10, gage height, 11.0 ft (3.353 m), from floodmark, from rating curve extended on basis of slope-area measurement of peak flow; no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	.00	.00	.00	.00	
2							---	.00	.00	.74	.00	
3							---	.00	.00	8.7	.00	
4							---	.00	.00	.03	8.7	
5							---	.00	.00	.00	1.7	
6							---	.00	.00	.00	.26	
7							.00	.00	.00	.00	13	
8							.00	.00	.00	.00	6.5	
9							.00	.00	.00	.00	19	
10							.00	.00	.00	.00	141	
11							.00	.00	.00	.08	.70	
12							.00	.00	.00	.00	---	
13							.00	.00	.00	.00	---	
14							.00	.00	.00	.00	---	
15							.00	.09	.00	.00	---	
16							.00	.00	.00	.00	---	
17							.00	.00	.00	.00	---	
18							.00	.00	.00	.00	---	
19							.00	.00	.00	.00	---	
20							.00	.00	.00	.00	---	
21							.00	.00	.00	.00	---	
22							.00	.00	.00	.00	---	
23							.00	.00	.00	.00	---	
24							.00	.00	.00	.00	---	
25							.00	.00	.00	.00	---	
26							.00	.00	.00	3.5	---	
27							.00	.00	5.1	.00	---	
28							.00	.00	8.6	.00	---	
29							.00	.18	.00	.00	---	
30							.00	.00	.00	.00	---	
31							---	.00	---	.00	---	
TOTAL							---	.27	13.70	13.05	---	
MEAN							---	.009	.46	.42	---	
MAX							---	.18	8.6	8.7	---	
MIN							---	.00	.00	.00	---	
AC-FT							---	.5	27	26	---	

NOTE.--NO GAGE-HEIGHT RECORD AUG. 11 TO SEPT. 30.

07124100 MOLINO CANYON NEAR WESTON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1978 to September 1981 (seasonal record only) (discontinued).

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1981 (discontinued).

INSTRUMENTATION.--Pumping sediment sampler since October 1978 (discontinued).

REMARKS.--In addition to pumping sediment sampler, samples were collected by a local observer on rises as this station flows primarily as a result of storm runoff. Sediment discharge record is considered fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 12,600 mg/L Aug. 14, 1979; no flow many days every year.
SEDIMENT LOADS: Maximum daily, 35,100 tons (31,800 t) Aug. 10, 1981; no flow many days every year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 9,700 mg/L July 3; no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 35,100 tons (31,800 t) Aug. 10; no flow many days during the year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	SPECIFIC CONDUCTANCE LAB (UMHOS)	TEMPERATURE (DEG C)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
MAY										
15...	1230	2.1	252	--	8.0	--	150000	50	3	38
15...	1250	1.1	248	--	8.0	--	190000	50	2	38
15...	1330	.53	285	--	11.0	--	110000	50	2	33
29...	1820	.53	--	86	--	--	48000	7	1	24
29...	1945	.53	--	211	--	--	120000	5	1	31
29...	2130	.68	--	190	--	--	55000	9	1	24
JUN										
27...	1742	50	244	--	5.5	--	450000	34	3	150
27...	1845	4.1	211	--	8.5	--	300000	26	2	200
28...	1200	166	350	--	10.0	--	450000	54	8	220
JUL										
26...	1245	112	--	391	14.0	--	700000	21	6	800
26...	1300	62	--	353	15.0	--	600000	21	3	560
26...	1315	107	--	--	--	--	--	--	--	--
26...	1330	69	--	--	--	--	--	--	--	--
26...	1340	13	--	287	16.0	--	600000	18	3	380
26...	1345	39	--	--	--	--	--	--	--	--
26...	1400	13	--	--	--	--	--	--	--	--
AUG										
04...	1840	2.8	--	211	18.0	--	250000	3	0	50
05...	1605	38	--	--	--	--	--	--	--	--
05...	1611	45	--	--	16.0	--	500000	12	5	350
05...	1615	14	--	--	--	--	--	--	--	--
05...	1627	9.0	--	--	--	--	--	--	--	--
05...	1800	2.5	--	183	17.0	--	250000	6	1	120
07...	1935	48	--	245	11.0	6.2	270000	8	7	800
07...	2030	--	--	187	11.5	--	150000	5	2	450

07124100 MOLINO CANYON NEAR WESTON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
MAY										
15...	160	360	210000	130	6200	--	0	250	3	1100
15...	110	380	230000	120	7000	--	8	250	6	1200
15...	98	220	120000	110	3000	--	1	160	3	660
29...	55	180	76000	100	2400	.3	0	82	1	470
29...	72	420	200000	210	5600	.6	3	220	2	940
29...	45	180	98000	95	2000	.4	3	85	2	500
JUN										
27...	330	1100	660000	420	22000	1.4	0	450	1	2600
27...	230	650	380000	250	13000	1.3	0	300	1	1600
28...	600	1800	660000	750	31000	1.8	0	1000	0	4100
JUL										
26...	490	1500	670000	1000	38000	2.0	1	900	21	3900
26...	470	1100	640000	900	30000	1.4	1	720	19	3000
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	310	900	660000	800	24000	1.6	1	550	13	2700
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
AUG										
04...	45	230	140000	59	2800	.8	2	80	2	520
05...	--	--	--	--	--	--	--	--	--	--
05...	260	1100	500000	900	16000	1.6	2	550	14	2600
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
05...	92	300	190000	200	4500	.7	1	210	5	1200
07...	280	1000	390000	350	12000	2.3	0	540	15	2400
07...	100	500	210000	80	4600	1.0	1	220	6	1200

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
JUL				
26...	1300	62	59000	9880
26...	1315	107	44400	12800
26...	1330	69	39000	7270
26...	1345	39	29500	3110
26...	1400	13	27400	962
AUG				
05...	1605	38	56800	5830
05...	1615	14	43800	1660
05...	1627	9.0	33300	809

07124100 MOLINO CANYON NEAR WESTON, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	---			.00	---	---	.00	---	---
2	---			.00	---	---	.00	---	---
3	---			.00	---	---	.00	---	---
4	---			.00	---	---	.00	---	---
5	---			.00	---	---	.00	---	---
6	---			.00	---	---	.00	---	---
7	.00			.00	---	---	.00	---	---
8	.00			.00	---	---	.00	---	---
9	.00			.00	---	---	.00	---	---
10	.00			.00	---	---	.00	---	---
11	.00			.00	---	---	.00	---	---
12	.00			.00	---	---	.00	---	---
13	.00			.00	---	---	.00	---	---
14	.00			.00	---	---	.00	---	---
15	.00			.09	1020	2.9	.00	---	---
16	.00			.00	---	---	.00	---	---
17	.00			.00	---	---	.00	---	---
18	.00			.00	---	---	.00	---	---
19	.00			.00	---	---	.00	---	---
20	.00			.00	---	---	.00	---	---
21	.00			.00	---	---	.00	---	---
22	.00			.00	---	---	.00	---	---
23	.00			.00	---	---	.00	---	---
24	.00			.00	---	---	.00	---	---
25	.00			.00	---	---	.00	---	---
26	.00			.00	---	---	.00	---	---
27	.00			.00	---	---	5.1	4480	844
28	.00			.00	---	---	8.6	6140	1580
29	.00			.18	1540	3.8	.00	---	---
30	.00			.00	---	---	.00	---	---
31	---			.00	---	---	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	.00	---	---	.00	---	---			
2	.74	---	66	.00	---	---			
3	8.7	9700	1130	.00	---	---			
4	.03	---	.03	8.7	---	1460			
5	.00	---	---	1.7	2170	206			
6	.00	---	---	.26	---	2.7			
7	.00	---	---	13	7370	1450			
8	.00	---	---	6.5	4190	822			
9	.00	---	---	19	6260	2920			
10	.00	---	---	141	7900	35100			
11	.08	---	.54	.70	---	.60			
12	.00	---	---	---	---	---			
13	.00	---	---	---	---	---			
14	.00	---	---	---	---	---			
15	.00	---	---	---	---	---			
16	.00	---	---	---	---	---			
17	.00	---	---	---	---	---			
18	.00	---	---	---	---	---			
19	.00	---	---	---	---	---			
20	.00	---	---	---	---	---			
21	.00	---	---	---	---	---			
22	.00	---	---	---	---	---			
23	.00	---	---	---	---	---			
24	.00	---	---	---	---	---			
25	.00	---	---	---	---	---			
26	3.5	3500	376	---	---	---			
27	.00	---	---	---	---	---			
28	.00	---	---	---	---	---			
29	.00	---	---	---	---	---			
30	.00	---	---	---	---	---			
31	.00	---	---	---	---	---			
TOTAL	13.05	---	1572.57	190.86	---	41961.30			
YEAR	217.88		45964.57						

07124120 SARCILLO CANYON NEAR SEGUNDO, CO

LOCATION.-Lat 37°07'26", long 104°45'49", in NW¼SE¼ sec.34, T.33 S., R.66 W., Las Animas County, Hydrologic Unit 11020010, on right bank about 300 ft (91.4 m) upstream from State Highway 12 bridge, 1.5 mi (2.4 km) west of Segundo, and 500 ft (152 m) upstream from mouth.

DRAINAGE AREA.--35.3 mi^2 (91.4 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1978 to September 1981 (since October 1979, seasonal record only) (discontinued).

GAGE.--Water-stage recorder and super critical-flow flume. Altitude of gage is 6,600 ft (2,012 m), from topographic map.

REMARKS.--Records fair. No diversions above station. Recording rain gage and other weather monitoring gages upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,800 ft^3/s (334 m^3/s) Aug. 10, 1981, gage height, 12.3 ft (3.749 m), from floodmarks, from rating curve extended above 45 ft^3/s (1.27 m^3/s), on basis of slope-area measurement at gage height 6.72 ft (2.93 m), and three area-velocity computations of peak flow through a bridge; minimum daily, 0.01 ft^3/s (0.001 m^3/s) June 28, July 9, 10, 1979, May 8, June 8-10, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,800 ft^3/s (334 m^3/s) at 1730 Aug. 10, gage height, 12.3 ft (3.749 m), froom floodmarks, from rating curve extended as explained above; minimum daily, 0.01 ft^3/s (0.001 m^3/s) May 8, June 8-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							.07	.11	.06	.20	1.8	2.3
2							.05	.07	.05	2.2	.63	2.0
3							.03	.07	.03	38	.41	17
4							.07	.07	.02	1.1	31	3.9
5							.05	.10	.02	.29	1.4	2.4
6							.09	.05	.03	.17	.63	3.8
7							.09	.02	.04	.17	11	26
8							.05	.01	.01	.16	34	3.5
9							.09	.05	.01	.07	291	2.9
10							.07	.04	.01	.06	490	2.8
11							.07	.04	.03	.12	138	264
12							.09	.03	.03	.26	94	5.2
13							.07	.03	.03	.23	9.5	21
14							.12	.68	.03	.25	8.2	6.3
15							.12	.23	.03	.36	8.0	4.3
16							.12	.16	.03	.43	158	4.3
17							.12	.09	.03	.24	11	3.6
18							.12	.09	.03	230	8.0	2.9
19							.16	.09	.03	.63	6.9	2.8
20							.16	.07	.03	.20	6.6	2.8
21							.16	.03	.03	.10	84	3.5
22							.16	.03	.03	.05	6.3	3.0
23							.12	.03	.03	.12	2.9	2.5
24							.12	.09	.08	.09	2.6	2.0
25							.09	.09	.09	.07	2.4	1.7
26							.09	.07	.09	96	2.3	1.4
27							.07	.07	12	1.1	220	1.2
28							.05	.07	4.9	.43	7.2	1.0
29							.04	.42	.19	.41	4.2	.80
30							.05	.41	.28	.40	3.5	.70
31							---	.06	---	.40	2.6	---
TOTAL							2.76	3.47	18.30	374.31	1648.07	401.60
MEAN							.092	.11	.61	12.1	53.2	13.4
MAX							.16	.68	12	230	490	264
MIN							.03	.01	.01	.05	.41	.70
AC-FT							5.5	6.9	36	742	3270	797

07124120 SARCILLO CANYON NEAR SEGUNDO, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1981 (seasonal record only) (discontinued).

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: April 1979 to September 1981 (discontinued).

REMARKS.--Samples were collected by a local observer on rises as this station flows primarily as a result of storm runoff although a small amount of seepage occurs most of the time. Records of sediment discharge for water years 1980 and 1981 are published in this report. Sediment record is considered poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 19,200 mg/L Aug. 10, 1981, minimum daily, no sediment flow many days.
SEDIMENT LOADS: Maximum daily, 140,000 tons (127,000 t) Aug. 10, 1981, minimum daily, no sediment flow many days.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 19,200 mg/L Aug. 10; minimum daily, no sediment flow many days.
SEDIMENT LOADS: Maximum daily 140,000 tons (127,000 t) Aug. 10; minimum daily, no sediment flow many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
MAR											
17...	1345	.02	743	742	7.7	9.0	8.5	240	62	21	65
AUG											
01...	1820	--	--	--	--	--	--	--	--	--	--
04...	1600	--	--	--	--	--	--	--	--	--	--
07...	2005	--	--	--	--	--	--	--	--	--	--
07...	2020	32	--	--	--	--	--	--	--	--	--
10...	1715	1100	--	--	--	--	--	--	--	--	--
10...	1856	--	--	--	--	--	--	--	--	--	--
21...	1640	1900	--	418	--	--	--	--	--	--	--
21...	1720	1050	--	383	--	--	--	--	--	--	--
27...	1800	1500	--	9500	--	--	--	--	--	--	--
27...	1830	2400	--	179	--	--	--	--	--	--	--
SEP											
11...	1700	2000	--	346	--	--	--	--	--	--	--
11...	1720	1500	--	330	--	--	--	--	--	--	--
11...	1750	660	--	306	--	--	--	--	--	--	--
13...	1737	58	--	456	--	--	--	--	--	--	--
13...	1750	94	--	438	--	--	--	--	--	--	--
13...	1820	160	--	366	--	--	--	--	--	--	--

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
MAR											
17...	1.8	2.7	210	160	11	.4	7.2	460	.63	.02	.90
AUG											
01...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
SEP											
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--

07124120 SARCILLO CANYON NEAR SEGUNDO, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
MAR										
17...	.000	0	0	0	1	20	2	<1	--	--
AUG										
01...	--	100000	--	8	--	--	1	--	340	110
04...	--	500000	--	14	--	--	5	--	650	330
07...	--	100000	--	15	--	--	3	--	600	230
07...	--	250000	--	13	--	--	2	--	260	170
10...	--	600000	--	30	--	--	9	--	700	610
10...	--	500000	--	42	--	--	6	--	300	360
21...	--	380000	--	20	--	--	6	--	900	430
21...	--	330000	--	15	--	--	7	--	900	370
27...	--	340000	--	11	--	--	2	--	80	310
27...	--	300000	--	11	--	--	6	--	120	300
SEP										
11...	--	240000	--	12	--	--	3	--	56	250
11...	--	290000	--	9	--	--	5	--	60	340
11...	--	260000	--	11	--	--	4	--	60	240
13...	--	160000	--	12	--	--	2	--	96	130
13...	--	120000	--	5	--	--	1	--	82	100
13...	--	210000	--	6	--	--	3	--	60	180

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
MAR										
17...	1	1	280	<10	2	0	10	3	.1	.0
AUG										
01...	400	--	280000	--	300	--	6300	--	.7	--
04...	1300	--	600000	--	800	--	18000	--	2.0	--
07...	800	--	450000	--	800	--	13000	--	1.6	--
07...	750	--	410000	--	500	--	10000	--	1.6	--
10...	1600	--	720000	--	1200	--	40000	--	2.3	--
10...	1100	--	660000	--	800	--	26000	--	1.4	--
21...	1200	--	650000	--	600	--	28000	--	410	--
21...	1100	--	640000	--	340	--	21000	--	1.3	--
27...	1100	--	300000	--	420	--	22000	--	2.0	--
27...	1000	--	590000	--	410	--	22000	--	3.2	--
SEP										
11...	800	--	490000	--	300	--	16000	--	2.0	--
11...	1100	--	530000	--	390	--	19000	--	1.4	--
11...	900	--	570000	--	290	--	15000	--	1.6	--
13...	450	--	270000	--	140	--	8100	--	.8	--
13...	400	--	250000	--	110	--	6400	--	1.2	--
13...	600	--	380000	--	190	--	11000	--	1.0	--

DATE	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
MAR										
17...	3	<10	1	0	5	7	10	20	3.4	3.2
AUG										
01...	3	--	210	--	7	--	1200	--	--	--
04...	2	--	610	--	25	--	3100	--	--	--
07...	1	--	430	--	13	--	2200	--	--	--
07...	1	--	330	--	10	--	1900	--	--	--
10...	1	--	1000	--	35	--	4200	--	--	--
10...	1	--	670	--	25	--	2900	--	--	--
21...	1	--	730	--	27	--	3200	--	--	--
21...	0	--	620	--	23	--	2700	--	--	--
27...	1	--	600	--	19	--	2900	--	--	--
27...	0	--	600	--	22	--	2700	--	--	--
SEP										
11...	2	--	440	--	18	--	2100	--	--	--
11...	2	--	550	--	14	--	2800	--	--	--
11...	4	--	130	--	12	--	2200	--	--	--
13...	2	--	230	--	8	--	1200	--	--	--
13...	2	--	180	--	6	--	1100	--	--	--
13...	2	--	310	--	10	--	1600	--	--	--

07124120 SARCILLO CANYON NEAR SEGUNDO, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	---		.00	6.8	7150	144	3.0		.50
2	---		.00	5.3	---	35	2.8		.30
3	---		.00	4.1	---	11	2.5		.30
4	---		.00	3.4	---	8.7	2.4		.30
5	---		.00	3.0	---	10	2.2		.30
6	---		.00	2.3	---	4.8	2.1		.20
7	---		.00	2.5	---	9.7	1.9		.20
8	---		.00	2.4	---	9.0	2.2		.20
9	---		.00	1.5	---	1.7	2.8		.20
10	---		.00	1.2	---	1.5	2.5		.10
11	---		.00	1.1	---	1.3	2.3		.10
12	---		.00	.86	---	1.4	1.7		.10
13	---		.00	.77	---	1.2	1.4		.10
14	---		.00	1.0	---	2.4	1.2		.10
15	---		.00	13	---	412	1.2		.10
16	---		.00	15	---	171	1.2		.10
17	---		.00	10	---	29	1.3		.10
18	.12		.00	7.8	---	15	1.1		.05
19	.19		.00	6.7	---	12	.96		.05
20	.25		.00	6.5	---	11	.89		.05
21	.19		.00	6.2	---	7.6	.92		.05
22	.07		.00	5.9	---	3.8	1.0		.05
23	.24		1.0	5.6	---	4.2	1.0		.05
24	1.5		8.1	4.9	---	3.1	1.0		.05
25	2.7		16	4.6	---	2.2	1.0		.05
26	3.8		54	4.3	---	2.0	1.1		.05
27	4.0		53	4.0	---	1.0	1.1		.05
28	4.4		29	3.8	---	1.0	1.1		.05
29	3.6		18	3.5	---	.50	.81		.05
30	3.6		33	3.4	---	.50	.57		.05
31	---			3.3	---	.50	---		
		JULY			AUGUST			SEPTEMBER	
1	.68		1.8	.54		.39	.20		.00
2	.78		.07	.54		5.0	.26		.00
3	.73		.05	.50		.50	.27		.00
4	.66		.05	.40		.10	.21		.00
5	.49		.05	.35		.00	.28		.00
6	.34		.05	.30		.00	.25		.00
7	.34		.05	.25		.00	.32		.00
8	.23		.05	.34		.72	.19		.00
9	.10		.05	.34		.00	.38		.00
10	.33		.05	.25		.00	.27		.00
11	.39		.05	.24		.00	.30		.00
12	.42		.05	.29		.00	.24		.00
13	.40		.00	.26		.00	.19		.00
14	.37		.00	5.2		400	.12		.00
15	.23		.00	.45		.56	.13		.00
16	.37		.00	.26		.10	.09		.00
17	.40		.00	.29		.00	.12		.00
18	.34		.00	.27		.00	.14		.00
19	.44		.00	.25		.00	.18		.00
20	.44		.00	.20		.00	.15		.00
21	.41		.00	.18		.00	.12		.00
22	.39		.00	.19		.00	.20		.00
23	.37		.00	.23		.00	.13		.00
24	.35		.00	.20		.00	.09		.00
25	.34		.00	.12		.00	.12		.00
26	.28		.00	.15		.06	.08		.00
27	.24		.00	.34		.07	.04		.00
28	.23		.00	.24		.00	.08		.00
29	.22		.00	.30		.00	.10		.00
30	.39		.00	.27		.00	.07		.00
31	1.0		45	.16		.00	---		
TOTAL	12.70		47.37	13.90		407.50	5.32		0.00
YEAR	255.52		1589.02						

07124120 SARCILLO CANYON NEAR SEGUNDO, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	.07		.00	.11		.00	.06		.00
2	.05		.00	.07		.00	.05		.00
3	.03		.00	.07		.00	.03		.00
4	.07		.00	.07		.00	.02		.00
5	.05		.00	.10		.00	.02		.00
6	.09		.00	.05		.00	.03		.00
7	.09		.00	.02		.00	.04		.00
8	.05		.00	.01		.00	.01		.00
9	.09		.00	.05		.00	.01		.00
10	.07		.00	.04		.00	.01		.00
11	.07		.00	.04		.00	.03		.00
12	.09		.00	.03		.00	.03		.00
13	.07		.00	.03		.00	.03		.00
14	.12		.00	.68		22	.03		.00
15	.12		.00	.23		.39	.03		.00
16	.12		.00	.16		.10	.03		.00
17	.12		.00	.09		.00	.03		.00
18	.12		.00	.09		.00	.03		.00
19	.16		.00	.09		.00	.03		.00
20	.16		.00	.07		.00	.03		.00
21	.16		.00	.03		.00	.03		.00
22	.16		.00	.03		.00	.03		.00
23	.12		.00	.03		.00	.03		.00
24	.12		.00	.09		.00	.08		.00
25	.09		.00	.09		.00	.09		.00
26	.09		.00	.07		.00	.09		.00
27	.07		.00	.07		.00	12		1990
28	.05		.00	.07		.00	4.9		494
29	.04		.00	.42		1.6	.19		1.0
30	.05		.00	.41		1.1	.28		.50
31	---			.06		.00	---		
		JULY			AUGUST			SEPTEMBER	
1	.20		.30	1.8	---	47	2.3		1.0
2	2.2		241	.63	---	25	2.0		.35
3	38		5490	.41	---	1.0	17		872
4	1.1		9.8	31	6250	5130	3.9		3.6
5	.29		.50	1.4	---	19	2.4		.59
6	.17		.10	.63	---	9.6	3.8		62
7	.17		.00	11	7460	996	26		941
8	.16		.00	34	---	5810	3.5		3.5
9	.07		.00	291	8840	52600	2.9		2.0
10	.06		.00	490	19200	140000	2.8		1.0
11	.12		.00	138	12300	12200	264		44900
12	.26		.22	94	---	7430	5.2		6.9
13	.23		.00	9.5	---	14	21		1040
14	.25		.00	8.2	---	3.7	6.3		15
15	.36		1.4	8.0	---	5.9	4.3		3.0
16	.43		.39	158	4580	27400	4.3		1.0
17	.24		.10	11	---	205	3.6		.50
18	230		48000	8.0	---	16	2.9		.20
19	.63		4.6	6.9	---	6.0	2.8		.10
20	.20		.50	6.6	---	2.8	2.8		.00
21	.10		.00	84	3920	7130	3.5		.00
22	.05		.00	6.3	---	17	3.0		.00
23	.12		.00	2.9	---	5.0	2.5		.00
24	.09		.00	2.6	---	2.0	2.0		.00
25	.07		.00	2.4	---	1.0	1.7		.00
26	96		18200	2.3	---	.5	1.4		.00
27	1.1		10	220	---	71200	1.2		.00
28	.43		1.0	7.2	---	23	1.0		.00
29	.41		.50	4.2	---	40	.80		.00
30	.40		.30	3.5	---	2.6	.70		.00
31	.40		.10	2.6	---	1.5	---		
TOTAL	374.31		71960.81	1648.07	---	330343.6	401.60		47853.74
YEAR	2448.51		452668.84						

07124200 PURGATOIRE RIVER AT MADRID, CO

LOCATION.--Lat 37°07'46", long 104°38'20", in SW¼NE¼ sec.35, T.33 S., R.65 W., Las Animas County, Hydrologic Unit 11020010, on left bank 70 ft (21 m) downstream from county bridge, 0.3 mi (0.5 km) northeast of Madrid, and 1.0 mi (1.6 km) downstream from Burro Canyon.

DRAINAGE AREA.--550 mi^2 (1,420 km^2), approximately.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--March 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,261.61 ft (1,908.539 m) National Geodetic Vertical Datum of 1929 (U.S. Army, Corps of Engineers bench mark).

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation of about 6,000 acres (24.3 km^2) above station.

AVERAGE DISCHARGE.--9 years, 55.3 ft^3/s (1.566 m^3/s), 40,060 acre-ft/yr (49.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft^3/s (405 m^3/s) July 20, 1976, gage height, 12.80 ft (3.901 m), from floodmarks, from rating curve extended above 300 ft^3/s (8.5 m^3/s), on basis of drift-timed measurement of peak flow; minimum daily, 3.0 ft^3/s (0.085 m^3/s) Feb. 23 to Mar. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft^3/s (28.3 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
June 28	1500	1,070	30.3	3.94	1.201	Aug. 10	1830	*11,600	329	a10.94	3.335
July 3	0700	1,660	47.0	4.58	1.396	Aug. 11	2130	5,050	143	6.64	2.024
July 12	1700	2,140	60.6	5.00	1.524	Aug. 16	2000	3,580	101	5.60	1.707
July 18	1500	1,620	45.9	4.50	1.372	Aug. 17	1930	4,100	116	6.03	1.838
July 26	1700	3,250	92.0	a6.10	1.859	Aug. 27	1830	5,470	155	6.94	2.115
Aug. 4	1700	1,370	38.8	4.15	1.265	Aug. 28	1830	2,990	84.7	5.06	1.542
Aug. 6	2330	2,080	58.9	4.98	1.518	Sept. 7	0530	3,650	103	5.66	1.725
Aug. 8	0230	2,370	67.1	5.22	1.591	Sept.11	1730	4,060	115	6.01	1.832
Aug. 9	2000	3,710	105	6.47	1.972						

a From floodmarks.
Minimum daily discharge, 4.4 ft^3/s (0.12 m^3/s) Feb. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	21	21	10	4.4	11	11	37	34	139	53	101
2	14	21	19	10	8.0	11	11	46	34	82	63	92
3	15	21	21	14	12	12	10	37	26	463	66	265
4	15	21	20	11	12	13	12	42	32	152	132	149
5	15	20	20	14	10	9.7	11	36	31	82	61	95
6	15	19	18	14	9.6	12	9.9	42	49	64	135	98
7	15	19	18	9.2	9.2	11	10	23	79	43	441	1640
8	14	19	18	10	11	11	9.7	17	91	70	557	374
9	13	18	10	11	12	10	9.7	17	75	50	348	247
10	13	18	16	14	6.8	11	9.7	22	75	97	1310	233
11	13	18	28	16	10	16	9.7	18	70	102	1230	764
12	14	18	30	17	12	14	10	15	69	306	1500	336
13	14	18	29	14	14	14	10	15	59	125	443	228
14	13	22	21	13	14	13	11	16	51	82	243	207
15	15	23	21	13	14	12	13	18	50	71	165	190
16	23	20	22	12	14	12	12	18	41	71	403	196
17	20	15	20	12	13	13	11	15	30	144	412	190
18	19	18	18	12	12	13	11	10	34	271	300	174
19	19	35	16	12	12	12	12	9.3	34	95	261	165
20	19	41	17	12	12	12	12	13	37	58	170	156
21	19	41	19	12	12	13	11	12	33	58	201	145
22	19	41	26	12	9.2	12	12	12	32	49	269	137
23	19	30	16	12	11	11	13	14	36	50	173	134
24	19	22	10	12	12	12	13	19	34	45	139	119
25	17	20	18	12	11	13	13	19	35	41	122	105
26	18	19	14	12	11	11	14	17	31	437	94	97
27	20	30	12	12	10	12	15	16	88	125	578	87
28	21	48	11	12	11	12	19	20	140	106	362	84
29	20	39	12	12	---	13	21	62	57	67	168	78
30	22	24	10	8.8	---	12	24	109	105	44	117	71
31	21	---	10	8.4	---	11	---	59	---	38	94	---
TOTAL	528	739	561	375.4	309.2	374.7	370.7	825.3	1592	3627	10610	6957
MEAN	17.0	24.6	18.1	12.1	11.0	12.1	12.4	26.6	53.1	117	342	232
MAX	23	48	30	17	14	16	24	109	140	463	1500	1640
MIN	13	15	10	8.4	4.4	9.7	9.7	9.3	26	38	53	71
AC-FT	1050	1470	1110	745	613	743	735	1640	3160	7190	21040	13800

CAL YR 1980 TOTAL 37700.0 MEAN 103 MAX 641 MIN 10 AC-FT 74780
WTR YR 1981 TOTAL 26869.3 MEAN 73.6 MAX 1640 MIN 4.4 AC-FT 53300

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to September 1981 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1978 to September 1981 (discontinued).
WATER TEMPERATURE: October 1978 to September 1981 (discontinued).
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1981 (discontinued).

INSTRUMENTATION.--Water-quality monitor since July 1978. Pumping sediment sampler since July 1978.

REMARKS.--In addition to pumping sediment sampler, samples were collected by a local observer. Sediment-discharge record is considered fair. Previously unpublished daily-sediment records for the 1979 and 1980 water years are included in this report.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 615 micromhos Feb. 2, 1981; minimum, 149 micromhos Aug. 15, 1979.
WATER TEMPERATURES: Maximum, 30.5°C Aug. 6, 1979; minimum, 0.0°C on many days during winter months in 1979-81.
SEDIMENT CONCENTRATIONS: Maximum daily, 39,400 mg/L June 28, 1981; minimum daily, 3 mg/L Oct. 2, 1979, and Nov. 13, 1980.
SEDIMENT LOADS: Maximum daily, 316,000 tons (287,000 t) Aug. 10, 1981; minimum daily, 0.12 tons (0.11 t) Mar. 1, 1981.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 615 micromhos Feb. 2; minimum, 185 micromhos July 12.
WATER TEMPERATURES: Maximum, 28.5°C June 21; minimum, 0.0°C on many days during October to April.
SEDIMENT CONCENTRATIONS: Maximum daily, 39,400 mg/L June 28; minimum daily, 3 mg/L Nov. 13.
SEDIMENT LOADS: Maximum daily, 316,000 tons (287,000 t) Aug- 10; minimum daily, 0.12 tons (0.11 t) Mar. 1.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
MAR 17...	1500	15	463	470	8.0	10.5	9.3	180	52	13	26	.8
JUL 28...	1907	54	--	369	--	--	--	--	--	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
MAR 17...	1.7	160	69	3.7	.3	4.8	267	.36	10.8	.10	.000
JUL 28...	--	--	--	--	--	--	--	--	--	--	--

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BORON, DISSOLVED (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
MAR										
17...	200	10	1	1	0	0	<1	--	--	2
JUL										
28...	250000	--	10	--	--	1	--	230	120	350
AUG										
04...	400000	--	15	--	--	4	--	400	230	900
10...	500000	--	4	--	--	8	--	750	410	100

DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)
MAR										
17...	1	330	30	2	2	30	10	.1	.0	2
JUL										
28...	--	270000	--	300	--	6700	--	.6	--	1
AUG										
04...	--	420000	--	800	--	13000	--	1.3	--	3
10...	--	650000	--	1000	--	28000	--	2.0	--	1

DATE	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
MAR									
17...	<10	1	1	1	1	10	10	.5	3.2
JUL									
28...	--	220	--	9	--	1300	--	--	--
AUG									
04...	--	460	--	20	--	2400	--	--	--
10...	--	770	--	44	--	3300	--	--	--

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT				
08...	1345	12	5	.16
NOV				
13...	1510	18	3	.15
DEC				
18...	1400	20	8	.43
JAN				
21...	1318	12	45	1.5
FEB				
27...	1040	10	11	.30
MAR				
10...	1556	11	17	.50
18...	0920	13	31	1.1
26...	1315	11	27	.80
APR				
08...	1330	9.7	19	.50
21...	1320	11	24	.71

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
MAY				
13...	1015	15	18	.73
JUN				
18...	1238	34	19	1.7
30...	1135	59	787	125
JUL				
22...	1210	49	146	19
27...	1950	59	2000	319
28...	1922	170	12800	5880
30...	1130	44	259	31
30...	1219	43	244	28
AUG				
04...	1842	290	36600	28700
04...	1850	242	37000	24200
05...	1245	71	503	96
11...	1443	492	6140	8160

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
432	435	438	478	508	498	470	364	---	358		
429	435	445	477	571	491	471	335	---	379		
427	434	443	480	550	484	468	339	---	356		
424	435	434	469	517	478	457	320	---	359		
427	437	439	470	509	486	453	311	---	392		
428	439	443	455	493	487	468	315	---	401		
425	439	439	481	492	480	465	339	---	409		
432	440	438	481	496	478	468	350	---	395		
433	445	478	485	492	479	470	354	---	397		
436	447	522	502	516	471	470	345	---	358		
437	445	480	501	575	432	460	357	---	360		
438	446	423	490	549	451	455	367	---	270		
434	439	405	498	493	464	450	371	---	322		
439	429	425	514	457	462	450	384	---	375		
439	424	439	528	438	460	445	389	---	382		
422	431	431	523	452	461	440	390	---	366		
440	459	434	516	473	458	440	393	---	340		
435	479	437	492	490	452	440	415	368	270		
430	476	447	477	491	465	440	413	373	298		
429	466	473	488	493	471	440	402	377	326		
428	459	474	504	487	468	440	406	387	338		
428	456	467	508	510	476	440	416	390	302		
428	426	443	477	505	475	440	---	384	292		
428	429	462	454	496	469	435	---	381	297		
440	441	473	468	496	465	430	---	375	304		
437	457	444	495	499	464	428	---	377	305		
434	460	452	509	500	468	415	---	364	---		
430	437	457	497	500	469	400	---	335	---		
435	407	461	462	---	463	380	---	347	---		
438	424	470	474	---	463	378	---	346	---		
436	---	475	473	---	467	---	---	---	---		

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
20.5	9.0	11.5	1.0	6.5	.0	4.5	.0	.5	.0	13.5	4.0
19.5	8.0	12.0	1.5	6.0	.0	2.5	.0	.0	.0	13.0	1.5
19.0	6.5	7.5	1.5	7.5	1.5	4.0	.0	.5	.0	7.0	3.5
19.5	6.5	11.0	1.0	7.0	.5	1.5	.0	.5	.0	8.5	1.5
18.0	6.5	12.5	2.0	8.0	1.5	4.0	.0	.5	.0	11.0	.0
19.5	7.5	13.0	2.5	6.0	.0	5.0	.0	.5	.0	8.0	1.0
19.5	6.5	12.5	3.5	5.5	.5	3.0	.0	.5	.0	5.0	1.5
19.0	6.5	13.0	3.5	1.5	.0	2.5	.5	.5	.0	11.5	.0
19.0	6.5	12.5	3.0	.5	.0	1.5	.0	1.5	.0	12.5	.0
18.5	7.0	13.0	2.5	.5	.0	.5	.0	.0	.0	8.5	1.0
17.5	5.0	12.0	2.5	.5	.0	.5	.0	.0	.0	6.5	.0
19.0	6.5	11.5	3.0	1.0	.0	1.0	.0	.5	.0	15.0	.5
17.5	7.0	6.5	2.5	1.5	.0	.5	.0	.5	.0	10.0	1.5
18.0	6.0	2.5	.0	3.0	.0	.5	.0	.5	.0	8.5	2.0
14.0	6.5	3.5	.0	4.5	.0	.5	.0	4.5	.0	14.5	1.0
12.0	3.0	.5	.0	6.0	.5	.0	.0	8.0	.0	15.0	1.5
12.5	1.0	1.5	.0	6.5	.0	.5	.0	9.0	.0	10.5	2.5
12.0	1.5	1.0	.0	5.0	1.0	1.0	.0	11.0	1.0	10.0	2.5
12.5	1.0	.5	.0	2.0	.0	1.0	.0	8.0	.5	15.0	.5
13.0	1.5	1.0	.0	1.5	.0	.5	.0	10.5	2.5	14.5	3.0
13.5	2.0	1.0	.0	1.0	.0	.5	.0	7.0	.5	5.0	2.0
13.5	2.0	1.0	.0	1.5	.0	.5	.0	8.0	.0	15.0	1.0
8.0	2.5	2.0	.0	5.5	.0	1.0	.0	11.0	.0	15.0	2.5
10.0	.0	.5	.0	1.0	.0	1.5	.0	12.5	.0	11.0	2.0
10.0	.0	1.0	.0	2.5	.0	.5	.0	12.0	.0	16.5	2.5
7.0	1.5	.5	.0	6.0	.0	.5	.0	12.5	1.5	14.5	3.5
3.5	.5	.0	.0	7.5	.0	.5	.0	9.0	2.0	17.0	4.0
5.5	.0	1.0	.0	7.0	1.0	2.0	.0	10.5	1.0	8.0	3.5
8.0	.0	4.5	.0	7.5	2.0	3.0	.0	---	---	16.5	2.0
10.5	.0	5.0	.5	6.0	.0	2.0	.0	---	---	15.5	3.0
11.5	.5	---	---	6.0	.0	1.5	.0	---	---	14.5	.5

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.5	.0	22.5	12.5	---	---	24.0	15.0				
2	15.5	3.0	21.5	11.0	---	---	22.5	15.5				
3	11.5	3.0	21.0	11.5	---	---	23.5	14.5				
4	11.5	2.0	20.0	11.0	---	---	22.5	15.0				
5	16.0	.0	16.0	10.5	---	---	26.0	14.5				
6	17.0	2.0	20.5	10.0	---	---	28.0	15.5				
7	17.0	4.0	20.5	9.5	---	---	28.0	17.0				
8	10.0	5.0	19.0	9.0	---	---	25.0	16.0				
9	---	---	13.0	7.0	---	---	25.5	15.0				
10	---	---	19.5	4.5	---	---	27.0	16.0				
11	---	---	19.5	7.5	---	---	28.0	16.0				
12	---	---	17.5	8.0	---	---	24.5	12.0				
13	---	---	14.5	9.0	---	---	22.5	13.0				
14	---	---	21.0	7.0	---	---	24.5	15.5				
15	---	---	16.5	9.5	---	---	27.0	16.0				
16	---	---	21.0	8.5	---	---	23.5	15.5				
17	---	---	17.0	7.5	---	---	22.5	16.5				
18	---	---	16.0	8.5	23.0	15.5	23.0	6.5				
19	---	---	18.5	7.5	26.5	11.5	26.5	13.5				
20	---	---	20.5	8.5	26.5	14.0	27.5	14.0				
21	---	---	20.5	9.5	28.5	14.0	28.0	15.0				
22	---	---	21.0	7.0	27.5	16.5	24.5	15.5				
23	---	---	---	---	24.5	15.5	23.0	16.5				
24	---	---	---	---	22.5	15.5	27.0	15.5				
25	---	---	---	---	25.0	14.5	25.5	15.5				
26	---	---	---	---	27.5	16.0	21.5	16.5				
27	---	---	---	---	27.5	12.5	---	---				
28	---	---	---	---	22.0	13.5	---	---				
29	22.5	15.0	---	---	19.5	15.5	---	---				
30	22.5	10.0	---	---	26.0	14.5	---	---				
31	---	---	---	---	---	---	---	---				

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	8.6	---	.50	14	---	1.5	16	---	7.0
2	8.4	---	.50	14	---	1.5	13	---	6.0
3	8.7	---	.50	14	---	1.5	10	---	4.5
4	9.2	---	.50	18	---	2.5	13	---	6.0
5	9.0	---	.50	20	---	3.0	14	---	6.5
6	7.6	---	.40	17	---	2.0	12	---	5.5
7	9.8	---	.50	16	---	2.0	10	---	4.5
8	9.8	---	.50	15	---	2.0	9.0	---	4.0
9	9.4	---	.50	15	---	2.0	9.0	---	4.0
10	9.8	---	.50	14	---	2.0	10	---	4.5
11	9.6	---	.50	15	---	2.0	13	---	6.0
12	9.4	22	.56	17	---	3.0	19	---	15
13	8.8	17	.40	17	---	3.0	25	---	25
14	9.9	21	.56	14	50	1.9	25	---	25
15	11	17	.50	14	---	2.0	25	---	25
16	10	22	.59	15	---	2.5	30	---	35
17	10	24	.65	15	---	2.5	30	---	35
18	10	42	1.1	20	---	3.5	28	432	33
19	11	30	.89	17	---	3.0	25	209	14
20	10	31	.84	12	---	2.5	22	---	10
21	11	93	2.8	14	94	3.6	19	---	9.0
22	23	227	.00	15	91	3.9	19	---	9.0
23	18	54	2.6	14	124	4.7	19	---	9.0
24	14	---	2.0	14	110	4.2	17	---	7.5
25	15	52	2.1	16	50	2.2	16	---	7.0
26	16	---	2.0	15	---	3.0	16	---	7.0
27	15	---	2.0	15	---	8.0	18	---	8.5
28	14	---	1.5	13	333	12	18	---	8.5
29	14	---	1.5	16	118	5.1	12	---	5.5
30	14	---	1.5	17	153	7.0	9.0	---	5.0
31	14	---	1.5	---	---	---	8.0	---	5.0

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	8.0		5.0	8.0	---	5.0	10	---	.80
2	9.0		5.0	9.0	---	5.0	9.7	---	.80
3	10		5.0	10	---	5.0	11	---	.90
4	10		5.0	11	---	5.0	8.8	---	.70
5	8.0		5.0	11	---	5.0	9.5	---	.75
6	8.0		5.0	12	---	5.5	11	---	.90
7	8.0		5.0	12	---	5.5	11	---	.90
8	9.0		5.0	12	---	5.5	10	---	.80
9	9.0		5.0	13	---	6.0	11	---	.90
10	9.0		5.0	13	---	6.0	11	---	.90
11	9.0		5.0	15	---	10	10	---	.70
12	12		5.0	18	---	15	10	---	.70
13	12		5.0	23	---	20	10	21	.57
14	9.0		5.0	30	---	35	9.6	38	.98
15	9.0		5.0	27	---	30	9.5	24	.62
16	10		5.0	26	---	30	9.5	20	.51
17	12		5.0	24	---	25	9.3	20	.50
18	10		5.0	21	---	20	9.6	17	.44
19	8.5		5.0	20	---	20	9.3	16	.40
20	8.4		5.0	20	---	20	9.4	18	.46
21	8.0		5.0	13	653	23	10	18	.49
22	8.0		5.0	12	219	7.1	11	16	.48
23	8.0		5.0	8.8	---	3.5	10	14	.38
24	8.0		5.0	8.8	---	2.5	10	16	.43
25	10		5.0	9.6	---	1.5	8.8	16	.38
26	9.0		5.0	12	---	1.5	8.8	14	.33
27	8.0		5.0	11	---	.90	8.8	16	.38
28	8.0		5.0	10	---	.80	8.1	18	.39
29	8.0		5.0	---	---	---	8.2	18	.40
30	8.0		5.0	---	---	---	9.0	18	.44
31	8.0		5.0	---	---	---	9.3	18	.45

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	9.8	20	.53	25	104	7.0	312	1990	1680
2	10	24	.65	23	57	3.5	288	---	1480
3	11	15	.45	25	51	3.4	280	---	1360
4	10	26	.70	27	86	5.8	276	---	1270
5	9.8	20	.53	25	107	7.2	284	---	1300
6	9.6	20	.52	22	76	4.5	288	---	1240
7	9.1	14	.34	23	66	4.1	300	---	1300
8	8.9	16	.38	26	84	5.9	328	1610	1430
9	11	15	.45	36	586	57	372	2820	2830
10	12	18	.58	47	1180	150	344	---	1020
11	12	17	.55	40	460	50	316	776	662
12	11	16	.48	37	258	26	296	737	589
13	10	18	.49	28	94	7.1	308	932	775
14	10	11	.30	22	64	3.8	324	1030	901
15	10	14	.38	22	55	3.3	332	1270	1140
16	10	14	.38	25	76	5.1	352	1340	1270
17	12	23	.75	36	166	16	356	---	769
18	12	31	1.0	62	1770	290	332	763	684
19	14	64	2.4	71	1370	268	280	527	398
20	16	102	4.4	85	1240	263	231	253	158
21	17	68	3.1	126	3650	1270	196	164	87
22	18	58	2.8	113	1580	474	186	190	95
23	19	66	3.4	305	11100	52600	218	1880	1890
24	21	113	6.4	282	11800	18500	290	3430	3970
25	23	127	7.9	252	9990	11600	273	1560	1320
26	23	114	7.1	308	---	5990	245	1100	728
27	23	86	5.3	304	---	1150	245	1010	668
28	23	70	4.3	304	---	1310	252	994	676
29	24	80	5.2	328	1900	1680	256	822	568
30	27	99	7.2	400	11600	30200	259	---	629
31	---	---	---	348	4640	6280	---	---	---

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	262	1260	891	114	2780	1080	54	---	16
2	273	1230	907	73	622	123	48	---	10
3	259	1220	853	68	315	58	48	70	9.1
4	248	---	603	60	---	32	42	---	7.0
5	231	538	336	56	---	15	41	65	7.2
6	225	291	177	53	105	15	35	77	7.3
7	211	---	148	50	118	16	34	77	7.1
8	196	---	127	58	159	25	31	85	7.1
9	186	201	101	60	146	24	29	82	6.4
10	170	204	94	66	223	40	31	81	6.8
11	155	192	80	182	---	13100	27	65	4.7
12	132	157	56	196	---	10600	33	62	5.5
13	122	104	34	93	8970	2850	247	7200	16600
14	192	---	11400	1410	23500	177000	211	8380	6030
15	170	7370	8020	940	11200	30600	99	---	500
16	220	8120	17400	308	2320	2060	81	---	100
17	440	16600	66600	163	754	332	68	117	21
18	580	20900	75700	240	---	4360	61	73	12
19	174	5530	3520	152	---	398	55	80	12
20	122	733	241	122	346	114	46	59	7.3
21	109	---	147	112	295	89	47	61	7.7
22	107	---	87	101	243	66	64	78	---
23	111	242	72	96	204	53	51	---	9.0
24	142	2970	3790	93	341	86	46	61	13
25	141	4470	1800	164	4200	5060	43	59	8.1
26	131	3100	1220	108	4140	1480	41	44	5.5
27	133	1780	679	103	3280	1060	39	---	3.0
28	125	---	200	78	340	72	34	---	1.5
29	154	---	1630	70	267	50	31	7	.59
30	117	648	205	73	211	42	30	5	.40
31	710	7320	58800	62	135	23	---	---	---
TOTAL	6548	---	255918	5524	---	250923	1747	---	23425.29
YEAR	29001.5		696437.12						

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	29	---	.24	23	---	2.6	18	---	5.2
2	28	3	.23	21	---	2.1	20	---	8.1
3	22	---	.30	21	---	2.1	26	---	15
4	21	16	.91	27	---	3.0	30	---	21
5	22	29	1.7	27	42	3.0	30	---	25
6	22	---	1.8	27	---	3.0	30	---	30
7	22	---	2.4	25	---	2.8	26	420	29
8	21	51	2.9	26	---	2.5	23	---	23
9	21	60	3.4	29	---	2.4	19	---	11
10	22	---	1.8	38	---	4.3	18	134	6.5
11	22	12	.71	28	---	3.1	20	71	3.8
12	20	---	.81	30	---	3.8	22	208	13
13	19	---	.77	24	---	3.0	23	144	9.0
14	19	20	1.0	25	---	3.5	23	---	12
15	19	15	.77	27	---	3.8	28	---	20
16	19	---	.77	27	---	4.5	24	308	20
17	19	---	.62	32	---	6.3	25	213	14
18	19	---	.51	36	---	8.1	27	241	18
19	21	---	.57	31	85	7.1	21	127	7.2
20	21	---	.57	36	---	7.6	20	162	8.8
21	19	---	.51	22	72	4.3	21	---	7.5
22	25	---	2.0	21	---	8.8	24	---	6.9
23	25	47	3.2	22	318	19	25	---	7.2
24	26	---	2.5	23	286	18	22	---	5.7
25	22	28	1.7	26	---	20	27	---	7.0
26	19	32	1.6	29	292	29	26	---	6.0
27	16	---	.88	29	---	22	25	---	8.6
28	16	9	.39	22	---	15	24	---	6.9
29	16	---	.43	20	---	11	23	---	5.9
30	22	---	1.5	19	---	8.0	26	---	6.7
31	45	---	---	---	---	---	27	---	6.2

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	28	---	5.9	25	---	8.8	21	---	2.9
2	28	77	5.8	31	---	12	18	49	2.4
3	25	---	4.6	40	---	16	19	25	1.3
4	25	57	4.0	38	---	16	20	---	2.1
5	30	---	14	30	---	13	18	48	2.4
6	31	---	8.7	22	169	10	17	---	1.8
7	26	84	5.9	24	---	9.4	17	31	1.4
8	25	85	5.8	26	---	6.8	15	---	1.6
9	23	---	5.2	22	---	2.9	15	---	2.0
10	26	---	7.3	32	---	4.2	16	65	2.8
11	27	116	8.5	37	53	5.3	16	27	1.2
12	29	---	9.0	37	---	7.8	16	16	.71
13	27	---	9.1	28	---	4.4	14	---	.73
14	25	131	8.8	24	50	3.3	14	---	.92
15	22	---	6.1	25	---	3.3	15	---	.98
16	21	90	5.1	34	---	4.5	15	---	1.2
17	17	---	4.2	33	---	4.3	16	---	2.1
18	18	---	4.5	26	---	3.7	15	85	3.5
19	19	---	4.7	27	58	4.2	16	---	4.2
20	23	---	5.7	30	44	3.6	16	0	4.2
21	21	112	6.4	22	55	3.3	15	---	3.5
22	24	268	17	20	---	3.1	14	---	3.3
23	27	211	15	19	---	3.5	23	---	12
24	27	---	13	19	---	4.5	16	123	5.3
25	24	---	9.9	19	108	5.5	20	---	5.2
26	21	---	7.5	25	183	12	18	81	3.9
27	20	---	6.6	22	---	8.6	19	106	5.4
28	20	---	6.1	21	79	4.5	21	95	5.4
29	20	---	6.1	21	---	2.1	18	---	3.8
30	20	---	6.1	---	---	---	18	---	3.3
31	23	---	7.6	---	---	---	19	---	2.5

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	17	46	2.1	438	5100	5130	383	---	310
2	30	179	14	421	4660	5060	382	288	297
3	21	76	4.3	454	4890	6170	340	262	241
4	24	---	5.5	481	5130	6480	301	285	232
5	28	---	7.2	409	2640	2820	314	290	246
6	32	---	9.6	531	5630	7770	341	350	322
7	33	152	14	478	3380	4120	324	---	306
8	27	100	6.5	563	4340	6360	327	---	353
9	24	83	5.4	439	1990	2330	579	1610	2280
10	23	69	4.3	357	1670	1570	641	1700	2690
11	28	92	6.9	320	1090	928	606	1790	2720
12	34	---	9.2	282	692	517	593	1550	2330
13	25	---	7.2	238	453	286	572	1150	1680
14	30	124	10	211	397	220	553	---	1340
15	36	158	15	360	1910	3000	519	---	981
16	33	87	7.8	560	4310	7340	486	507	665
17	42	139	16	545	1600	2260	443	438	524
18	55	136	20	444	---	1650	447	434	524
19	62	---	26	346	1250	1170	449	319	387
20	76	---	45	315	837	712	427	370	427
21	84	---	61	328	868	769	391	---	317
22	85	332	76	379	995	1020	359	---	242
23	102	792	218	453	1220	1490	343	182	169
24	124	1160	388	526	---	1420	338	168	153
25	145	744	291	529	---	1140	345	217	202
26	150	---	324	461	---	747	341	185	175
27	148	---	400	418	510	576	326	153	135
28	182	1740	855	393	556	590	324	---	122
29	225	1700	1030	367	602	597	297	---	104
30	236	2950	1880	388	410	430	292	119	94
31	---	---	---	363	---	343	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	298	2450	2290	48	133	17	19	---	1.4
2	304	495	399	55	---	13	19	22	1.1
3	262	162	115	62	---	11	18	11	.54
4	235	---	78	58	---	8.0	17	697	82
5	211	---	51	54	44	6.4	23	5790	425
6	196	---	33	52	23	3.2	18	---	9.7
7	194	51	27	64	4000	798	21	65	3.7
8	188	51	26	74	3990	2160	21	96	5.4
9	167	39	17	111	---	1020	44	307	37
10	154	134	61	70	---	24	62	209	35
11	165	188	94	59	104	17	62	109	18
12	139	---	22	54	76	11	45	41	5.0
13	127	---	14	47	82	10	38	---	2.8
14	137	2340	1260	54	6260	2090	41	---	296
15	128	---	104	74	3630	1160	40	1950	210
16	110	---	27	44	---	59	31	43	3.6
17	105	25	7.1	46	---	12	27	19	1.4
18	92	29	7.2	45	46	5.5	23	28	1.7
19	91	---	6.2	38	53	5.4	22	30	1.8
20	80	---	4.9	35	37	3.5	20	19	1.0
21	79	19	4.0	30	38	3.1	19	---	1.0
22	80	---	9.7	27	29	2.1	19	---	1.0
23	91	58	14	27	---	2.0	20	19	1.0
24	77	31	6.4	29	---	2.0	19	19	.97
25	73	40	7.8	40	25	2.7	19	19	.97
26	70	---	6.8	43	27	3.2	19	19	.97
27	62	---	6.0	94	9900	3920	19	19	.97
28	54	32	4.6	30	688	42	19	17	.87
29	53	32	4.6	23	76	4.8	19	---	.85
30	51	29	4.0	21	---	3.2	19	---	.85
31	77	4960	2650	20	---	2.0	---	---	---
TOTAL	4150	---	7361.3	1528	---	11421.1	802	---	1151.59
YEAR	38087		122440.22						

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	15	20	.81	21	---	.85	21	14	.79
2	14	12	.45	21	---	.90	19	20	1.0
3	15	19	.77	21	18	1.0	21	18	1.0
4	15	15	.89	21	14	.79	20	13	.70
5	15	9	.53	20	12	.65	20	13	.70
6	15	12	.69	19	18	.92	18	---	.55
7	15	11	.65	19	11	.56	18	---	.50
8	14	---	.50	19	---	.50	18	10	.49
9	13	5	.18	18	---	.50	10	---	.30
10	13	---	.18	18	10	.49	16	---	.75
11	13	---	.18	18	5	.24	28	---	2.9
12	14	5	.19	18	7	.34	30	---	3.4
13	14	---	.19	18	3	.15	29	---	2.2
14	13	---	.18	22	---	.40	21	---	1.2
15	15	16	.65	23	---	.40	21	---	1.2
16	23	18	1.1	20	---	.35	22	---	.85
17	20	---	.90	15	---	.30	20	10	.59
18	19	---	.85	18	20	.97	18	8	.43
19	19	---	.80	35	---	3.2	16	---	.30
20	19	15	.77	41	---	6.0	17	---	.40
21	19	14	.72	41	---	6.0	19	---	.55
22	19	16	.82	41	---	5.3	26	17	1.2
23	19	15	.77	30	42	3.4	16	---	.65
24	19	10	51	22	17	1.0	10	---	.35
25	17	---	.40	20	---	.75	18	11	53
26	18	8	.39	19	---	.50	14	25	.94
27	20	8	.43	30	---	2.2	12	15	.49
28	21	14	.79	48	---	5.3	11	8	.24
29	20	10	.54	39	---	3.6	12	---	.35
30	22	14	.83	24	---	1.3	10	14	.38
31	21	14	.79	---	---	---	10	7	.19

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	10	---	.20	4.4	---	.25	11	4	.12
2	10	---	.20	8.0	25	.54	11	22	.65
3	14	---	.40	12	26	.84	12	14	.45
4	11	---	.25	12	---	.75	13	19	.67
5	14	---	.30	10	---	.50	9.7	10	.26
6	14	---	.30	9.6	---	.30	12	10	.32
7	9.2	---	.15	9.2	6	.15	11	---	.30
8	10	---	.20	11	24	.71	11	---	.40
9	11	---	.20	12	21	.68	10	30	.81
10	14	---	.40	6.8	---	.35	11	17	.50
11	16	---	1.2	10	58	1.6	16	40	1.7
12	17	---	2.2	12	---	2.6	14	40	1.5
13	14	---	1.6	14	122	4.6	14	35	1.3
14	13	40	1.4	14	---	3.0	13	---	.90
15	13	18	.63	14	---	2.3	12	---	.50
16	12	---	.60	14	35	1.3	12	6	.19
17	12	---	.70	13	37	1.3	13	36	1.3
18	12	---	.90	12	20	.65	13	28	.98
19	12	---	1.1	12	14	.45	12	25	.81
20	12	---	1.4	12	12	.39	12	15	.49
21	12	45	1.6	12	---	.40	13	13	.69
22	12	---	1.4	9.2	---	.30	12	13	.42
23	12	---	1.4	11	14	.42	11	7	.21
24	12	---	1.4	12	16	.52	12	10	.32
25	12	---	1.4	11	9	.27	13	25	.88
26	12	45	1.6	11	---	.24	11	22	.65
27	12	---	1.2	10	11	.30	12	22	.71
28	12	---	.95	11	9	.27	12	14	.45
29	12	---	.60	---	---	---	13	---	.80
30	8.8	11	.26	---	---	---	12	25	.81
31	8.4	22	.50	---	---	---	11	20	.59

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	11	---	.60	37	83	7.7	34	1390	123
2	11	20	.61	46	---	10	34	189	15
3	10	27	.73	37	61	5.6	26	121	6.5
4	12	---	.85	42	67	8.0	32	96	5.5
5	11	21	.62	36	52	3.8	31	94	5.3
6	9.9	25	.67	42	54	6.6	49	178	18
7	10	24	.65	23	32	1.7	79	261	55
8	9.7	28	.73	17	18	.83	91	216	52
9	9.7	31	.81	17	21	.94	75	152	30
10	9.7	27	.71	22	28	1.5	75	132	7.8
11	9.7	23	.60	18	29	1.4	70	91	5.0
12	10	---	.70	15	25	1.0	69	58	3.0
13	10	42	1.1	15	17	.70	59	29	1.4
14	11	42	1.2	16	20	.79	51	22	.90
15	13	33	1.2	18	28	1.3	50	13	.50
16	12	47	1.5	18	---	1.5	41	8	.24
17	11	33	.98	15	29	1.2	30	20	1.1
18	11	---	.95	10	24	.68	34	18	1.0
19	12	---	1.2	9.3	21	.51	34	18	1.4
20	12	41	1.3	13	33	1.1	37	15	.92
21	11	25	.74	12	26	.87	33	15	.86
22	12	28	.91	12	24	.81	32	17	.96
23	13	17	.60	14	27	1.0	36	27	1.6
24	13	18	.63	19	45	2.1	34	30	1.8
25	13	15	.53	19	42	2.0	35	25	1.5
26	14	---	.95	17	31	1.4	31	19	1.1
27	15	38	1.5	16	27	1.1	88	14800	17000
28	19	45	2.3	20	28	1.4	140	39400	47800
29	21	23	1.3	62	280	97	57	770	115
30	24	49	3.2	109	810	264	105	7130	9450
31	---	---	---	59	453	117	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	139	6380	3380	53	4720	2300	101		40
2	82	3600	897	63	3460	2590	92		30
3	463	33200	66800	66	850	314	265		11600
4	152	8160	4280	132	9720	14600	149		1640
5	82	138	31	61	2100	545	95		500
6	64	73	12	135	2990	15100	98		1730
7	43	73	5.4	441	17900	38400	1640		143000
8	70	304	57	557	18100	63500	374		1920
9	50	87	8.6	348	16600	59300	247		1990
10	97	10600	10400	1310	25400	316000	233		377
11	102	4100	1930	1230	19800	88500	764		32900
12	306	16900	39200	1500	22900	96000	336		2840
13	125	4530	2020	443	---	3210	228		91
14	82	433	112	243	---	910	207		85
15	71	176	37	165	---	200	190		70
16	71	371	84	403	---	41700	196		60
17	144	1110	674	412	---	59500	190		50
18	271	17000	34200	300	4910	6050	174		40
19	95	4030	1190	261	---	2180	165		30
20	58	398	68	170	414	267	156		30
21	58	179	32	201	7200	7520	145		30
22	49	133	18	269	---	2820	137		25
23	50	104	14	173	---	360	134		25
24	45	82	10	139	---	150	119		20
25	41	58	6.4	122	---	120	105		20
26	437	18300	84000	94	---	89	97		15
27	125	2750	1300	578	---	62300	87		15
28	106	8000	3300	362	---	37800	84		10
29	67	1330	241	168	---	1530	78		10
30	44	261	31	117	---	160	71		5.0
31	38	114	12	94	---	46	---		
TOTAL	3627	---	254350.4	10610	---	924061	6957		199198.0
YEAR	26869.3		1453161.37						

07124210 MULLIGAN CANYON NEAR BONCARBO, CO

LOCATION.--Lat 37°12'36", long 104°39'38", in SW¼SE¼ sec.34, T.32 S., R.65 W., Las Animas County, Hydrologic Unit 11020010, on left bank 400 ft (122 m) downstream from West Mulligan Canyon, 1.1 mi (1.8 km) from mouth at Reilly Canyon and 2.0 mi (3.2 km) east of Boncarbo.

DRAINAGE AREA.--4.53 mi² (11.73 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1978 to September 1981 (seasonal record only) (discontinued).

GAGE.--Water-stage recorder and supercritical-flow flume. Altitude of gage is 6,870 ft (2,094 m) from topographic map.

REMARKS.--Records good except those July 30 to Aug. 13 and those above 4.40 ft (1.341 m)., which are poor. Flow partially regulated by channel dam upstream since December 1978. Recording rain gage and other weather monitoring gages at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 399 ft³/s (11.3 m³/s) Aug. 16, 1981, gage height, 6.20 ft (1.890 m), from rating curve extended above 4.40 ft (1.341 m); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge recorded, 399 ft³/s (11.3 m³/s) at 2045 Aug. 16, gage height, 6.20 ft (1.890 m), from rating curve extended above 4.40 ft (1.341 m); no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							.00	.00	.00	.00	.00	.00
2							.00	.00	.00	.01	.00	.00
3							.00	.00	.00	.35	.00	.01
4							.00	.00	.00	.45	.00	.00
5							.00	.00	.00	.00	.00	.01
6							.00	.00	.00	.00	.00	.04
7							.00	.00	.00	.00	.00	5.2
8							.00	.00	.00	.00	.00	.27
9							.00	.00	.00	.00	4.0	.23
10							.00	.00	.00	.01	4.5	.21
11							.00	.00	.00	.00	8.5	.00
12							.00	.00	.00	.01	7.0	.00
13							.00	.00	.00	.00	.30	2.5
14							.00	.00	.00	.02	.00	.62
15							.00	.00	.00	.01	.00	.00
16							.00	.00	.00	.01	26	.00
17							.00	.00	.00	.02	22	.00
18							.00	.00	.00	.01	6.8	.00
19							.00	.00	.00	.00	.60	.00
20							.00	.00	.00	.00	.03	.00
21							.00	.00	.00	.00	.00	.00
22							.00	.00	.00	.00	.00	.00
23							.00	.00	.00	.00	.00	.00
24							.00	.00	.00	.00	.00	.00
25							.00	.00	.00	.00	.00	.00
26							.00	.00	.00	.40	.00	.00
27							.00	.00	.00	.00	.00	.00
28							.00	.00	.11	.00	.00	.00
29							.00	.04	.00	.00	.00	.00
30							.00	.00	.00	.00	.00	.00
31							---	.00	---	.00	.00	---
TOTAL							.00	.04	.11	1.30	79.73	9.09
MEAN							.000	.001	.004	.042	2.57	.30
MAX							.00	.04	.11	.45	26	5.2
MIN							.00	.00	.00	.00	.00	.00
AC-FT							.00	.08	.2	2.6	158	18

07124210 MULLIGAN CANYON NEAR BONCARBO, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1978 to September 1981 (discontinued).

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1981 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 37,000 mg/L estimated July 31, 1979; no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 1790 tons (1620 t) Aug. 16, 1981; no flow many days during the year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 1980, 1981 water years, 3,840 mg/L estimated May 4, 1980; no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 1,790 tons (1620 t) Aug. 16, 1981; no flow many days during the year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	TEMPER-ATURE (DEG C)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
AUG										
09...	1838	2.6	114	15.0	--	80000	2	0	34	54
09...	1852	.77	--	15.2	--	50000	2	0	120	30
12...	0917	6.2	188	10.8	--	20000	1	0	26	94
12...	0942	5.8	185	10.8	--	250000	1	0	26	6
12...	1011	5.3	195	10.9	--	15000	1	0	21	100
16...	2029	102	271	15.2	--	65000	2	0	200	28
16...	2050	44	240	15.2	--	60000	2	0	200	32
16...	2115	40	231	15.0	5.7	65000	2	0	150	25
16...	2137	36	209	15.1	--	60000	3	0	150	24
17...	0945	2.9	251	11.0	5.5	20000	1	0	27	4

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
AUG									
09...	300	97000	88	2200	.7	2	84	2	800
09...	170	70000	58	1700	.2	1	61	2	400
12...	26	21000	31	350	.1	2	120	1	110
12...	50	22000	100	370	1.0	3	11	1	880
12...	23	21000	26	320	.1	2	100	1	1900
16...	120	78000	46	1600	.2	2	51	2	490
16...	120	81000	54	1700	.3	0	52	1	370
16...	120	86000	58	1500	.3	0	50	1	560
16...	110	78000	47	1600	.3	1	47	1	430
17...	21	17000	2	250	.1	0	9	1	110

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
AUG				
09...	1838	2.6	5400	38
09...	1852	.77	4300	8.9
12...	0917	6.2	664	11

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
AUG				
12...	0942	5.8	600	9.4
12...	1011	5.3	538	7.7

07124210 MULLIGAN CANYON NEAR BONCARBO, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	.00			.00		---	.00		---
2	.00			.00		---	.00		---
3	.00			.00		---	.00		---
4	.00			.00		---	.00		---
5	.00			.00		---	.00		---
6	.00			.00		---	.00		---
7	.00			.00		---	.00		---
8	.00			.00		---	.00		---
9	.00			.00		---	.00		---
10	.00			.00		---	.00		---
11	.00			.00		---	.00		---
12	.00			.00		---	.00		---
13	.00			.00		---	.00		---
14	.00			.00		---	.00		---
15	.00			.00		---	.00		---
16	.00			.00		---	.00		---
17	.00			.00		---	.00		---
18	.00			.00		---	.00		---
19	.00			.00		---	.00		---
20	.00			.00		---	.00		---
21	.00			.00		---	.00		---
22	.00			.00		---	.00		---
23	.00			.00		---	.00		---
24	.00			.00		---	.00		---
25	.00			.00		---	.00		---
26	.00			.00		---	.00		---
27	.00			.00		---	.00		---
28	.00			.00		---	.11		.80
29	.00			.04		.10	.00		---
30	.00			.00		---	.00		---
31	---			.00		---	---		
		JULY			AUGUST			SEPTEMBER	
1	.00		---	.00	---	---	.00		---
2	.01		.08	.00	---	---	.00		---
3	.35		3.7	.00	---	---	.01		.10
4	.45		8.6	.00	---	---	.00		---
5	.00		---	.00	---	---	.01		.03
6	.00		---	.00	---	---	.04		.45
7	.00		---	.00	---	---	5.2		85
8	.00		---	.00	---	---	.27		---
9	.00		---	4.0	2030	340	.23		.24
10	.01		.02	4.5	---	240	.21		.14
11	.00		---	8.5	---	380	.00		---
12	.01		.02	7.0	1200	50	.00		---
13	.00		---	.30	---	.20	2.5		96
14	.02		.03	.00	---	---	.62		1.2
15	.01		.01	.00	---	---	.00		---
16	.01		.03	26	3580	1790	.00		---
17	.02		---	22	2960	718	.00		---
18	.01		.02	6.8	---	33	.00		---
19	.00		---	.60	---	1.6	.00		---
20	.00		---	.03	---	.00	.00		---
21	.00		---	.00	---	---	.00		---
22	.00		---	.00	---	---	.00		---
23	.00		---	.00	---	---	.00		---
24	.00		---	.00	---	---	.00		---
25	.00		---	.00	---	---	.00		---
26	.40		6.6	.00	---	---	.00		---
27	.00		---	.00	---	---	.00		---
28	.00		---	.00	---	---	.00		---
29	.00		---	.00	---	---	.00		---
30	.00		---	.00	---	---	.00		---
31	.00		---	.00	---	---	---		
TOTAL	1.30		19.11	79.73	---	3552.80	9.09		183.16
YEAR	90.27		3755.97						

07124220 REILLY CANYON AT COKEDALE, CO

LOCATION.--Lat 37°08'43", long 104°37'07", in SW¼NE¼ sec.25, T.33 S., R.65 W., Las Animas County, Hydrologic Unit 11020010, on right bank 8 ft (2.4 m) upstream from county bridge, 0.1 mi (0.16 km) east of Cokedale, and 1.9 mi (3.1 km) upstream from mouth.

DRAINAGE AREA.--35.1 mi² (90.9 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1978 to September 1979, April to September 1981 (seasonal record only, 1981) (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 6,300 ft (1,920 m), from topographic map.

REMARKS.--Records fair except those below 1.0 ft³/s (0.03 m³/s), which are poor. No diversions above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,510 ft³/s (71.1 m³/s) July 31, 1979, gage height, 11.30 ft (3.444 m), result of slope-area measurement of peak flow; no flow many days in 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 950 ft³/s (26.9 m³/s) at 1700 July 26, gage height, 8.72 ft (2.658 m), from floodmark, from rating curve based on slope-area measurements of peak flow; minimum daily, 0.01 ft³/s (0.001 m³/s) June 4-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	.02	.30	.02	.20	.22
2							---	.02	.10	.02	.20	.20
3							---	.02	.04	22	.50	.59
4							---	.02	.01	14	.20	.85
5							---	.02	.01	1.0	.20	.45
6							---	.02	.01	.10	.80	.87
7							---	.02	.01	.05	.58	23
8							.05	.02	.01	.05	3.9	.49
9							.05	.02	.01	.05	21	3.5
10							.05	.02	.01	.05	22	.68
11							.05	.02	.01	.05	16	.60
12							.05	.02	.01	.05	21	.59
13							.04	.10	.01	.20	1.4	11
14							.04	.05	.01	.10	.49	1.0
15							.04	.20	.01	.05	.88	.29
16							.04	.02	.01	.50	11	.57
17							.04	.02	.01	8.2	14	.39
18							.03	.05	.01	4.7	5.2	.29
19							.02	.02	.01	1.0	.76	.29
20							.02	.02	.01	.10	.29	.29
21							.02	.02	.01	.04	.29	.29
22							.02	.02	.01	.03	.29	.29
23							.10	.02	.01	.03	.20	.49
24							.05	.10	.01	.03	.20	.49
25							.02	.02	.01	1.0	.18	.39
26							.02	.02	.20	97	.11	.29
27							.02	.02	.50	11	.23	.22
28							.05	.02	1.6	13	.21	.29
29							.02	2.0	.30	.50	.22	.29
30							.02	.59	.02	.30	.22	.29
31							---	.20	---	.20	.16	---
TOTAL							---	3.75	3.28	175.42	122.91	49.49
MEAN							---	.12	.11	5.66	3.96	1.65
MAX							---	2.0	1.6	97	22	23
MIN							---	.02	.01	.02	.11	.20
AC-FT							---	7.4	6.5	348	244	98

07124220 REILLY CANYON AT COKEDALE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1978 to September 30, 1979, Apr. 8 to Sept. 30, 1981 (seasonal only 1981) (discontinued).

REMARKS.--Sediment samples are taken by local observer of rises as this station flows primarily as a result of storm runoff. Sediment discharge is considered fair. Sediment data for 1979 and 1981 are published in this report.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily 19,700 mg/L July 31, 1979; minimum daily, no sediment flow many days.
SEDIMENT LOAD: Maximum daily 41,400 tons (37,600 t) July 31, 1979; minimum daily, no sediment flow many days.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily 9,190 mg/L July 26; minimum daily, no sediment flow many days.
SEDIMENT LOAD: Maximum daily 9,850 tons (8940 t) July 26; minimum daily, no sediment flow many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
MAR											
18...	1000	.27	1330	1340	8.4	5.5	10.4	300	59	36	190
MAY											
29...	1642	4.0	--	1430	--	13.5	--	--	--	--	--
29...	2028	3.2	--	--	--	--	--	--	--	--	--
29...	2143	17	--	--	--	--	--	--	--	--	--
29...	2155	17	--	540	--	11.5	--	--	--	--	--
29...	2222	11	--	--	--	--	--	--	--	--	--
30...	1000	5.0	--	935	--	14.0	--	--	--	--	--
JUL											
03...	0451	7.2	738	--	--	16.5	--	--	--	--	--
03...	0500	180	632	--	--	17.0	--	--	--	--	--
03...	0608	53	288	--	--	16.5	--	--	--	--	--
03...	0930	13	--	--	--	--	--	--	--	--	--
18...	1400	3.0	552	--	--	10.0	--	--	--	--	--
18...	1427	52	--	--	--	--	--	--	--	--	--
18...	1430	45	--	--	--	--	--	--	--	--	--
18...	1433	35	320	--	--	16.5	--	--	--	--	--
18...	2114	3.0	759	--	--	17.0	--	--	--	--	--
26...	1455	5.0	--	--	--	19.5	--	--	--	--	--
26...	1656	560	--	362	--	17.0	--	--	--	--	--
26...	2128	60	--	382	--	16.0	--	--	--	--	--
28...	2040	17	--	409	--	15.0	--	--	--	--	--
AUG											
02...	2221	148	--	352	--	18.5	--	--	--	--	--
02...	2244	197	--	301	--	18.5	--	--	--	--	--
02...	2339	87	--	252	--	18.0	--	--	--	--	--
10...	1800	140	--	280	--	17.0	--	--	--	--	--
10...	1827	112	--	221	--	17.0	--	--	--	--	--
10...	2044	40	--	313	--	17.5	--	--	--	--	--
11...	1102	2.7	--	--	--	--	--	--	--	--	--
11...	2155	87	--	--	--	16.5	--	--	--	--	--
11...	2215	130	--	262	--	17.0	--	--	--	--	--
11...	2346	80	--	227	--	17.0	--	--	--	--	--
16...	1855	27	--	302	--	17.0	--	--	--	--	--
16...	1955	8.0	--	278	--	17.0	--	--	--	--	--
17...	1955	2.8	--	683	--	18.0	--	--	--	--	--
25...	1105	.20	--	--	--	--	--	--	--	--	--
SEP											
07...	0020	--	--	--	--	16.0	--	--	--	--	--
07...	0140	--	--	--	--	15.0	--	--	--	--	--

07124220 REILLY CANYON AT COKEDALE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
MAR											
18...	4.8	3.5	270	410	12	.5	7.5	885	1.2	.65	.000
MAY											
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
AUG											
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--

07124220 REILLY CANYON AT COKEDALE, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BORON, DISSOLVED (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
MAR										
10...	5200	10	1	1	10	0	2	--	--	17
MAY										
29...	15000	--	4	--	--	0	--	17	10	33
29...	170000	--	14	--	--	2	--	30	82	530
30...	35000	--	2	--	--	0	--	25	22	80
JUL										
03...	53000	--	66	--	--	0	--	110	41	160
03...	570	--	50	--	--	4	--	230	480	1900
03...	470000	--	31	--	--	2	--	190	310	1200
10...	140000	--	--	--	--	3	--	80	170	510
10...	220000	--	14	--	--	5	--	100	230	700
10...	14000	--	2	--	--	0	--	10	6	27
20...	50000	--	6	--	--	0	--	70	24	100
20...	400000	--	12	--	--	4	--	600	260	900
20...	250000	--	10	--	--	0	--	300	88	400
20...	400000	--	12	--	--	1	--	280	120	690
AUG										
02...	500000	--	12	--	--	2	--	240	300	800
02...	500000	--	3	--	--	3	--	400	200	750
02...	250000	--	5	--	--	1	--	100	100	26
10...	250000	--	10	--	--	1	--	170	68	300
10...	250000	--	7	--	--	1	--	250	130	500
10...	250000	--	10	--	--	1	--	280	110	450
11...	250000	--	6	--	--	2	--	260	110	600
11...	250000	--	10	--	--	2	--	240	160	600
11...	250000	--	10	--	--	1	--	250	140	500
16...	130000	--	8	--	--	2	--	300	97	200
16...	65000	--	3	--	--	0	--	150	33	110
17...	20000	--	3	--	--	0	--	900	39	32
SEP										
07...	250000	--	10	--	--	1	--	180	210	510
07...	150000	--	5	--	--	1	--	130	110	340

DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)
MAR										
10...	2	11000	50	7	0	230	3	.1	.0	2
MAY										
29...	--	24000	--	23	--	870	--	.0	--	5
29...	--	[illegible]	--	170	--	8000	--	.6	--	3
30...	--	54000	--	38	--	1200	--	.2	--	3
JUL										
03...	--	85000	--	71	--	2200	--	2.5	--	0
03...	--	590000	--	710	--	32000	--	2.0	--	0
03...	--	590000	--	430	--	20000	--	1.4	--	5
10...	--	300000	--	230	--	8900	--	1.0	--	2
10...	--	370000	--	280	--	14000	--	1.3	--	2
10...	--	21000	--	12	--	390	--	.2	--	3
20...	--	58000	--	41	--	1400	--	.4	--	3
20...	--	560000	--	900	--	18000	--	1.6	--	2
20...	--	290000	--	500	--	7300	--	1.0	--	1
20...	--	420000	--	500	--	10000	--	.8	--	1
AUG										
02...	--	550000	--	800	--	18000	--	1.4	--	1
02...	--	470000	--	800	--	12000	--	1.3	--	1
02...	--	250000	--	10	--	5700	--	.6	--	3
10...	--	200000	--	400	--	5100	--	.4	--	1
10...	--	300000	--	500	--	8600	--	1.2	--	2
10...	--	320000	--	500	--	8100	--	.9	--	1
11...	--	270000	--	700	--	6800	--	.8	--	5
11...	--	380000	--	500	--	10000	--	.8	--	1
11...	--	390000	--	500	--	10000	--	.7	--	2
16...	--	170000	--	130	--	4700	--	.6	--	4
16...	--	81000	--	81	--	1700	--	.3	--	1
17...	--	30000	--	8	--	510	--	.1	--	3
SEP										
07...	--	410000	--	270	--	12000	--	10	--	3
07...	--	250000	--	120	--	6200	--	8.0	--	3

07124220 REILLY CANYON AT COKEDALE, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
MAR									
18...	<10	6	0	10	13	70	6	7.4	2.7
MAY									
29...	--	15	--	7	--	110	--	--	--
29...	--	240	--	2	--	1400	--	--	--
30...	--	33	--	10	--	220	--	--	--
JUL									
03...	--	66	--	1	--	400	--	--	--
03...	--	780	--	1	--	4000	--	--	--
03...	--	490	--	1	--	2800	--	--	--
18...	--	190	--	0	--	1300	--	--	--
18...	--	290	--	0	--	1700	--	--	--
18...	--	9	--	3	--	100	--	--	--
26...	--	39	--	2	--	250	--	--	--
26...	--	520	--	26	--	2900	--	--	--
26...	--	220	--	18	--	1200	--	--	--
28...	--	270	--	40	--	1600	--	--	--
AUG									
02...	--	530	--	19	--	2400	--	--	--
02...	--	390	--	15	--	2100	--	--	--
02...	--	230	--	9	--	1200	--	--	--
10...	--	110	--	4	--	920	--	--	--
10...	--	230	--	10	--	1400	--	--	--
10...	--	220	--	10	--	1400	--	--	--
11...	--	200	--	12	--	1200	--	--	--
11...	--	310	--	8	--	1700	--	--	--
11...	--	270	--	14	--	1700	--	--	--
16...	--	120	--	5	--	840	--	--	--
16...	--	50	--	3	--	350	--	--	--
17...	--	28	--	4	--	110	--	--	--
SEP									
07...	--	300	--	10	--	1900	--	--	--
07...	--	170	--	8	--	1100	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT				
26...	1015	.02	0	--
JUN				
01...	1755	1060	142000	406000
JUL				
31...	1911	1890	120000	612000
AUG				
14...	1023	19	3740	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
MAR				
18...	1000	.27	1120	.82
MAY				
29...	1642	4.0	1520	16
29...	2028	3.2	10900	94
29...	2143	17	25400	1170
29...	2155	17	22300	1020
29...	2222	11	19400	576
30...	1000	5.0	2070	28
JUL				
03...	0451	7.2	45300	881
03...	0500	180	117000	56900
03...	0608	53	53000	7580
03...	0930	13	20600	723
18...	1400	3.0	500	4.0
18...	1427	52	44000	6180
18...	1430	45	52200	6340
18...	1433	35	49000	4630
18...	2114	3.0	481	3.9
26...	1455	5.0	2680	36
26...	1656	560	61100	92400
26...	2128	60	30000	4860
28...	2040	17	17600	794
AUG				
11...	1102	2.7	459	3.3
25...	1105	.20	68	.04

07124220 REILLY CANYON AT COKEDALE, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	.04			.03	---	.00	58	8590	8430
2	.04			.03	---	.00	1.3	771	4.9
3	.06			.03	---	.00	1.8	1820	29
4	.04			.03	---	.00	.19	200	.10
5	.04			.03	---	.00	.06	---	.00
6	.04			.03	---	.00	.03	---	.00
7	.04			.03	---	.00	2.0	2040	42
8	.04			.04	---	.00	1.4	1450	20
9	.04			.04	---	.00	1.2	1400	7.8
10	.04			.04	---	.00	.10	---	.00
11	.03			.04	---	.00	.04	---	.00
12	.03			.04	---	.00	.02	---	.00
13	.03			.03	---	.00	.02	---	.00
14	.03			.03	---	.00	.02	---	.00
15	.03			.03	---	.00	.02	---	.00
16	.03			.03	---	.00	.02	---	.00
17	.03			.03	---	.00	.02	---	.00
18	.02			.03	---	.00	.02	---	.00
19	.02			.04	---	.00	.02	---	.00
20	.02			.06	---	.00	.02	---	.00
21	.02			.06	---	.00	.02	---	.00
22	.02			.04	---	.00	.02	---	.00
23	.02			.04	---	.00	2.0	1480	88
24	.02			6.7	4470	498	.73	539	2.8
25	.02			.90	1470	7.5	.03	---	.00
26	.02			7.6	5000	437	.02	---	.00
27	.02			.06	---	.00	.02	---	.00
28	.02			.04	---	.00	.02	---	.00
29	.03			.04	---	.00	.02	---	.00
30	.03			8.2	3600	440	.01	---	.00
31	---			.42	1000	1.1	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	26	6360	2360	9.4	5480	360	.04	---	.00
2	.31	800	.66	.19	---	.00	.04	---	.00
3	.70	539	2.8	.06	---	.00	.04	---	.00
4	.06	---	.00	.04	---	.00	.04	---	.00
5	.04	---	.00	.04	---	.00	.04	---	.00
6	.04	---	.00	.04	---	.00	.04	---	.00
7	.03	---	.00	.04	---	.00	.04	---	.00
8	.03	---	.00	.04	---	.00	.04	---	.00
9	.02	---	.00	11	5320	634	.04	---	.00
10	.02	---	.00	3.5	2130	33	.04	---	.00
11	.02	---	.00	.26	---	.00	.04	---	.00
12	.01	---	.00	.08	---	.00	.04	---	.00
13	.01	---	.00	.03	---	.00	32	8800	4590
14	.01	---	.00	97	16100	6550	19	7360	708
15	1.5	1540	25	15	2510	173	.48	200	.26
16	.10	150	.04	.26	---	.00	.16	---	.00
17	20	6350	2780	1.6	860	62	.10	---	.00
18	20	7000	1590	26	14500	5170	.08	---	.00
19	.19	600	.31	.54	300	.43	.06	---	.00
20	.04	---	.00	.19	---	.00	.06	---	.00
21	.03	---	.00	.13	---	.00	.19	---	.00
22	.11	133	.60	.08	---	.00	.10	---	.00
23	.20	94	.17	10	5370	689	.08	---	.00
24	7.6	2820	488	.42	900	1.0	.06	---	.00
25	.22	600	.36	1.2	1280	27	.06	---	.00
26	.04	---	.00	1.9	1450	18	.06	---	.00
27	.03	---	.00	.16	---	.00	.08	---	.00
28	.03	---	.00	.08	---	.00	.06	---	.00
29	1.0	1060	13	.06	---	.00	.04	---	.00
30	.13	200	.07	.06	---	.00	.03	---	.00
31	146	19700	41400	.04	---	.00	---	---	---
TOTAL	224.52	---	48661.81	179.44	---	13717.43	53.18	---	5298.26
YEAR	557.13		77684.90						

07124220 REILLY CANYON AT COKEDALE, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	---		.00	.02	---	.00	.30	---	.00
2	---		.00	.02	---	.00	.10	---	.00
3	---		.00	.02	---	.00	.04	---	.00
4	---		.00	.02	---	.00	.01	---	.00
5	---		.00	.02	---	.00	.01	---	.00
6	---		.00	.02	---	.00	.01	---	.00
7	---		.00	.02	---	.00	.01	---	.00
8	.05		.00	.02	---	.00	.01	---	.00
9	.05		.00	.02	---	.00	.01	---	.00
10	.05		.00	.02	---	.00	.01	---	.00
11	.05		.00	.02	---	.00	.01	---	.00
12	.05		.00	.02	---	.00	.01	---	.00
13	.04		.00	.10	---	.00	.01	---	.00
14	.04		.00	.05	---	.00	.01	---	.00
15	.04		.00	.20	---	.00	.01	---	.00
16	.04		.00	.02	---	.00	.01	---	.00
17	.04		.00	.02	---	.00	.01	---	.00
18	.03		.00	.05	---	.00	.01	---	.00
19	.02		.00	.02	---	.00	.01	---	.00
20	.02		.00	.02	---	.00	.01	---	.00
21	.02		.00	.02	---	.00	.01	---	.00
22	.02		.00	.02	---	.00	.01	---	.00
23	.10		.00	.02	---	.00	.01	---	.00
24	.05		.00	.10	---	.00	.01	---	.00
25	.02		.00	.02	---	.00	.01	---	.00
26	.02		.00	.02	---	.00	.20	---	.00
27	.02		.00	.02	---	.00	.50	---	.00
28	.05		.00	.02	---	.00	1.6	5600	300
29	.02		.00	2.0	3770	135	.30	---	.00
30	.02		.00	.59	2650	12	.02	---	.00
31	---			.20	---	---	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	.02	---	.00	.20		.00	.22		.00
2	.02	---	.00	.20		.00	.20		.00
3	22	8970	3130	.50		.00	.59		1.9
4	14	6750	1470	.20		.00	.85		.50
5	1.0	---	.00	.20		.00	.45		.00
6	.10	---	.00	.80		.00	.87		38
7	.05	---	.00	.58		.00	23		2220
8	.05	---	.00	3.9		195	.49		.00
9	.05	---	.00	21		2750	3.5		166
10	.05	---	.00	22		1920	.68		.30
11	.05	---	.00	16		1140	.60		.00
12	.05	---	.00	21		933	.59		.06
13	.20	---	.00	1.4		3.0	11		957
14	.10	---	.00	.49		.00	1.0		6.7
15	.05	---	.00	.88		.00	.29		.00
16	.50	---	.00	11		932	.57		.00
17	8.2	---	703	14		653	.39		.00
18	4.7	6510	143	5.2		86	.29		.00
19	1.0	---	.00	.76		.00	.29		.00
20	.10	---	.00	.29		.00	.29		.00
21	.04	---	.00	.29		.00	.29		.00
22	.03	---	.00	.29		.00	.29		.00
23	.03	---	.00	.20		.00	.49		.00
24	.03	---	.00	.20		.00	.49		.00
25	1.0	---	.00	.18		.00	.39		.00
26	97	9190	9850	.11		.00	.29		.00
27	11	1870	136	.23		.00	.22		.00
28	13	6580	919	.21		.00	.29		.00
29	.50	---	.00	.22		.00	.29		.00
30	.30	---	.00	.22		.00	.29		.00
31	.20	---	.00	.16		.00	---		
TOTAL	175.42	---	16351.00	122.91		8612.00	49.49		3390.40
YEAR	355.71		28800.40						

07124300 LONG CANYON CREEK NEAR MADRID, CO

LOCATION.--Lat 37°06'53", long 104°36'17", in SE¼NW¼ sec.6, T.34 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, on left bank 700 ft (210 m) upstream from private bridge, 1.4 mi (2.3 km) upstream from Oso Canyon, 2.2 mi (3.5 km) southeast of Madrid, and 2.3 mi (3.7 km) upstream from mouth.

DRAINAGE AREA.--100 mi^2 (260 km^2), approximately.

PERIOD OF RECORD.--March 1972 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 6,259.09 ft (1,907.771 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No diversion above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years, 2.94 ft^3/s (0.083 m^3/s), 2,130 acre-ft/yr (2.62 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,140 ft^3/s (70.2 m^3/s) July 17, 1979, gage height, 7.37 ft (2.097 m), from floodmarks, from rating curve extended above 1,000 ft^3/s (28 m^3/s), on basis of slope-area measurements at gage heights 6.88 ft (2.097 m), and 7.37 ft (2.246 m); no flow Feb. 22 to May 22, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft^3/s (5.7 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
May 31	2145	361	10.2	3.74	1.140	Aug. 11	2300	*1,880	53.2	6.13	1.868
June 30	2000	289	8.18	3.56	1.085	Aug. 28	1830	505	14.3	4.40	1.341
July 17	1430	784	22.2	4.54	1.384	Aug. 29	2030	1,060	30.0	5.15	1.570
July 26	1615	1,490	42.2	5.57	1.698	Sept. 3	1930	313	8.86	4.00	1.219
July 28	1630	273	7.73	3.90	1.189	Sept. 7	0645	1,380	39.1	5.53	1.686
Aug. 2	2215	224	6.34	3.76	1.146	Sept. 9	1630	957	27.1	5.04	1.536
Aug. 10	1815	850	24.1	4.90	1.494						

Minimum daily discharge, 0.02 ft^3/s (0.001 m^3/s) July 22-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.48	.19	.30	.30	.20	.11	.11	.11	7.2	11	1.9	7.2
2	.48	.19	.30	.30	.18	.11	.11	.11	.70	1.2	9.0	4.5
3	.48	.19	.30	.30	.20	.11	.11	.11	.30	2.6	7.2	37
4	.48	.19	.30	.21	.20	.11	.11	.11	.30	.70	6.0	29
5	.48	.19	.30	.20	.20	.11	.11	.11	.30	.30	1.5	53
6	.48	.19	.30	.20	.20	.11	.11	.11	.25	.11	5.0	27
7	.48	.19	.30	.20	.12	.11	.11	.11	.14	.03	17	362
8	.38	.19	.30	.20	.10	.11	.11	.11	.11	.03	2.7	103
9	.30	.30	.30	.20	.10	.11	.11	.11	.10	.03	12	132
10	.30	.30	.30	.20	.08	.11	.11	.11	.06	.03	100	70
11	.30	.30	.30	.20	.08	.11	.11	.11	.06	.03	258	36
12	.30	.30	.30	.13	.08	.11	.11	.11	.06	.03	262	38
13	.30	.30	.30	.11	.11	.11	.11	.11	.06	.03	57	25
14	.30	.30	.30	.11	.11	.11	.11	.13	.06	.03	15	12
15	.30	.30	.30	.11	.11	.11	.11	.19	.06	.03	7.8	8.4
16	.27	.30	.30	.11	.11	.11	.11	.17	.06	.03	29	7.8
17	.19	.24	.30	.11	.11	.11	.11	.11	.06	47	22	8.4
18	.19	.24	.30	.11	.11	.11	.11	.11	.06	2.0	13	7.2
19	.19	.19	.30	.11	.11	.11	.11	.11	.06	.19	9.6	7.2
20	.19	.19	.30	.15	.11	.07	.11	.11	.06	.06	7.2	6.0
21	.19	.19	.30	.23	.11	.07	.11	.06	.06	.03	6.0	4.0
22	.19	.19	.30	.19	.11	.07	.11	.06	.05	.02	6.0	4.5
23	.19	.19	.30	.20	.11	.07	.11	.06	.03	.02	6.6	4.0
24	.19	.19	.30	.20	.11	.07	.11	.06	.03	.02	12	4.0
25	.19	.19	.30	.20	.11	.07	.11	.06	.03	.02	11	4.0
26	.19	.19	.30	.20	.11	.07	.11	.06	.03	162	9.1	3.6
27	.19	.19	.30	.11	.11	.07	.11	.06	.03	7.8	56	4.1
28	.19	.19	.30	.11	.11	.07	.11	.03	.03	21	79	4.1
29	.19	.19	.30	.11	---	.07	.11	4.4	.03	3.8	69	2.5
30	.19	.30	.30	.16	---	.11	.11	1.4	31	.19	40	2.3
31	.19	---	.30	.20	---	.11	---	16	---	.11	12	---
TOTAL	8.96	6.79	9.30	5.47	3.50	3.01	3.30	24.61	41.38	260.47	1149.6	1017.8
MEAN	.29	.23	.30	.18	.13	.097	.11	.79	1.38	8.40	37.1	33.9
MAX	.48	.30	.30	.30	.20	.11	.11	16	31	162	262	362
MIN	.19	.19	.30	.11	.08	.07	.11	.03	.03	.02	1.5	2.3
AC-FT	18	13	18	11	6.9	6.0	6.5	49	82	517	2280	2020

CAL YR 1980 TOTAL 1999.58 MEAN 5.46 MAX 300 MIN .03 AC-FT 3970
WTR YR 1981 TOTAL 2534.19 MEAN 6.94 MAX 362 MIN .02 AC-FT 5030

07124350 CARPIOS CANYON NEAR JANSEN, CO

LOCATION.--Lat 37°09'13", long 104°34'02", in NE¼SW¼ sec.21, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, on right bank, 0.3 mi (0.5 km) upstream from State Highway 12, 0.6 mi (1.0 km) upstream from mouth at Trinidad Lake, and 1.8 mi (2.9 km) west of Jansen.

DRAINAGE AREA.--4.57 mi² (11.84 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1978 to September 1981 (seasonal record only), (discontinued).

GAGE.--Water-stage recorder and supercritical-flow flume. Altitude of gage is 6,260 ft (1,908 m) from topographic map.

REMARKS.--Records good except those above 100 ft³/s (2.8 m³/s) which are fair. Recording rain gage upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,300 ft³/s (150 m³/s) Aug. 9, 1981, gage height, 10.10 ft (3.078 m) from floodmark, from rating curve extended on basis of slope-area measurement of peak flow; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,300 ft³/s (150 m³/s) at 1915 Aug. 9, gage height, 10.10 ft (3.078 m), from floodmark, from rating curve extended on basis of slope-area measurement of peak flow; no flow most of year.

REVISIONS.--The maximum discharge for water year 1979 has been revised to 1,790 ft³/s (50.7 m³/s) July 31, 1979, gage height, 7.45 ft (2.271 m); revised daily discharge, in cubic feet per second, for July 31, 1979, is given below. These figures supersede those published in WDR-CO-79-1.

July 31	22

Month	Total	Mean	Max	Min
July 31, 1979	22.96	0.74	22	0

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	.00	.00	.00	.00	.00
2							---	.00	.00	.00	4.7	.00
3							---	.00	4.9	3.6	.59	.00
4							---	.00	.02	4.8	.00	.00
5							---	.00	.00	.00	.00	.00
6							---	.00	.00	.00	3.1	.00
7							---	.00	.00	.00	3.8	20
8							---	.00	.00	.00	.00	.05
9							---	.00	.00	.00	85	.01
10							---	.00	.00	.00	20	.00
11							---	.00	.00	.00	27	.00
12							---	.00	.00	.18	21	.00
13							---	.00	.00	.00	.03	.00
14							---	.00	.00	.00	.01	.00
15							---	.00	.00	.00	.01	.00
16							---	.00	.00	.00	23	.00
17							---	.00	.00	1.8	3.2	.00
18							---	.00	.00	.00	1.2	.00
19							---	.00	.00	.00	.01	.00
20							---	.00	.00	.00	.01	.00
21							.00	.00	.00	.00	.01	.00
22							.00	.00	.00	.00	.01	.00
23							.00	.00	.00	.00	.00	.00
24							.00	.00	.00	.00	.00	.00
25							.00	.00	.00	.00	.00	.00
26							.00	.00	.00	47	.00	.00
27							.00	.00	.00	.09	.00	.00
28							.00	.00	.00	.00	.00	.00
29							.00	.37	.00	.00	.00	.00
30							.00	.17	.00	.00	.00	.00
31							---	.00	---	.00	.00	---
TOTAL							---	.54	4.92	57.47	192.68	20.06
MEAN							---	.017	.16	1.85	6.22	.67
MAX							---	.37	4.9	47	85	20
MIN							---	.00	.00	.00	.00	.00
AC-FT							---	1.1	9.8	114	382	40

07124350 CARPIOS CANYON NEAR JANSEN, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1978 to September 1981 (seasonal record only) (discontinued).

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1981 (discontinued).

INSTRUMENTATION.--Pumping sediment sampler since October 1978 (discontinued).

REMARKS.--In addition to pumping sediment sampler, samples were collected by a local observer on rises as this station flows primarily as a result of storm runoff. Sediment discharge record is considered fair. Previously unpublished 1980 water-year data are published in this report.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 13,500 mg/L Aug. 14, 1979; no flow many days each year.
SEDIMENT LOADS: Maximum daily, 10,300 tons (9,340 t) July 26, 1981; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 7,680 mg/L July 26; no flow most of time.
SEDIMENT LOADS: Maximum daily, 10,300 tons (9,340 t) July 26; no flow most of time.

REVISIONS.--The maximum daily sediment load for water year 1979 has been revised to 3,350 tons (3,040 t) July 31, 1979, superseding value previously published.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	TEMPER-ATURE (DEG C)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
JUL									
26...	1610	52	--	17.0	600000	12	5	210	410
26...	1625	450	421	17.0	800000	27	6	600	370
26...	1701	130	246	17.0	500000	14	3	0	230
26...	1727	73	254	17.0	400000	13	2	320	180
AUG									
06...	2030	58	199	17.0	250000	3	2	150	82
06...	2137	16	198	17.0	250000	10	2	180	130
06...	2253	2.5	--	17.0	100000	7	0	95	65
09...	1900	272	237	5.0	500000	20	5	700	330
09...	1935	35	--	8.0	400000	15	3	300	170
09...	2018	3.5	--	9.0	250000	13	2	170	140
12...	2117	54	129	16.0	250000	1	0	90	84
12...	2140	87	151	--	250000	7	1	70	100
12...	2242	94	118	--	100000	3	1	60	88
16...	1850	68	189	--	170000	25	3	250	120
16...	1932	130	175	--	180000	5	3	300	91
16...	2100	28	164	--	80000	3	0	200	60

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
JUL									
26...	1300	720000	1100	19000	1.6	2	690	26	3100
26...	1500	930000	1300	28000	1.6	1	740	25	4100
26...	850	570000	900	15000	1.5	1	420	17	2600
26...	750	370000	800	12000	1.4	1	320	15	1700
AUG									
06...	550	390000	400	10000	.6	2	370	11	1600
06...	400	280000	400	8000	5.3	1	260	10	1300
06...	200	160000	300	3500	.6	4	100	5	680
09...	1100	600000	1000	21000	2.0	1	640	28	3200
09...	700	400000	800	12000	1.3	2	320	16	2000
09...	400	270000	500	6700	.7	1	230	9	1300
12...	250	180000	200	4600	.7	1	110	5	980
12...	350	290000	400	7300	1.0	10	260	8	1100
12...	200	170000	300	4000	.4	1	110	6	680
16...	390	250000	170	7500	1.0	1	240	8	1100
16...	410	270000	190	8600	1.2	1	210	8	1200
16...	200	150000	60	3300	.5	1	100	4	670

07124350 CARPIOS CANYON NEAR JANSEN, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
AUG					AUG				
16...	1850	68	29200	5360	16...	1932	130	35000	12300

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	.00	---	---	8.3	3170	84	.01	---	---
2	.00	---	---	1.3	1970	8.5	.01	---	---
3	.00	---	---	.32	---	---	.01	---	---
4	.00	---	---	3.9	4050	172	.01	---	---
5	.00	---	---	2.6	657	4.1	.01	---	---
6	.00	---	---	.70	96	.25	.01	---	---
7	.00	---	---	.50	409	1.1	.01	---	---
8	.00	---	---	.23	145	.26	.02	18	.02
9	.00	---	---	.04	---	---	.03	---	---
10	.00	---	---	.02	---	---	.02	---	---
11	.00	---	---	.01	---	---	.02	---	---
12	.00	---	---	.01	---	---	.01	---	---
13	.00	---	---	.01	---	---	.01	---	---
14	.00	---	---	.02	150	.02	.01	---	---
15	.00	---	---	3.3	3700	92	.01	---	---
16	.00	---	---	3.5	1700	27	.01	---	---
17	.00	---	---	.38	214	.29	.01	---	---
18	.00	---	---	.20	---	---	.01	---	---
19	.00	---	---	.12	---	---	.01	---	---
20	.00	---	---	.08	---	---	.01	---	---
21	.00	---	---	.07	---	---	.01	---	---
22	.00	---	---	8.1	5780	873	.01	---	---
23	.00	---	---	.64	441	1.5	.05	---	---
24	1.5	---	20	.24	---	---	.03	---	---
25	6.0	5240	85	.12	---	---	.03	---	---
26	4.4	---	40	.09	---	---	.01	---	---
27	5.4	---	60	.06	---	---	.01	---	---
28	1.3	---	2.9	.05	---	---	.01	---	---
29	.16	---	.05	.05	---	---	.01	---	---
30	2.1	---	37	.04	---	---	.01	---	---
31	---	---	---	.01	---	---	---	---	---

07124350 CARPIOS CANYON NEAR JANSEN, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	.01	---	---	.00	---	---	.03		
2	.84	1620	23	.01	---	---	.01		
3	.03	---	---	.01	---	---	.01		
4	.01	---	---	.00	---	---	.00		
5	.01	---	---	.00	---	---	.00		
6	.00	---	---	.00	---	---	.00		
7	.00	---	---	.00	---	---	.00		
8	.00	---	---	.00	---	---	.00		
9	.00	---	---	.01	---	---	.01		
10	.00	---	---	.00	---	---	.01		
11	.00	---	---	.00	---	---	.01		
12	.00	---	---	.00	---	---	.01		
13	.00	---	---	.00	---	---	.00		
14	.00	---	---	.00	---	---	.03		
15	.00	---	---	.00	---	---	.01		
16	.00	---	---	.00	---	---	.00		
17	.00	---	---	.12	222	.17	.00		
18	.00	---	---	.04	55	.01	.00		
19	.00	---	---	.01	---	---	.00		
20	.00	---	---	.01	---	---	.00		
21	.00	---	---	.00	---	---	.00		
22	.00	---	---	.00	---	---	.00		
23	.00	---	---	.00	---	---	.00		
24	.00	---	---	.00	---	---	.00		
25	.00	---	---	.00	---	---	.00		
26	.00	---	---	.00	---	---	.00		
27	.00	---	---	.00	---	---	.00		
28	.00	---	---	.00	---	---	.00		
29	.00	---	---	.03	---	---	.00		
30	.00	---	---	.01	---	---	.00		
31	.00	---	---	.01	---	---	---		
TOTAL	0.90	---	23	0.26	---	0.18	0.13		
YEAR	57.59		1534.17						

07124350 CARPIOS CANYON NEAR JANSEN, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	---			.00	---	---	.00		.00
2	---			.00	---	---	.00		417
3	---			.00	---	---	4.9		.02
4	---			.00	---	---	.02		---
5	---			.00	---	---	.00		---
6	---			.00	---	---	.00		---
7	---			.00	---	---	.00		---
8	---			.00	---	---	.00		---
9	---			.00	---	---	.00		---
10	---			.00	---	---	.00		---
11	---			.00	---	---	.00		---
12	---			.00	---	---	.00		---
13	---			.00	---	---	.00		---
14	---			.00	---	---	.00		---
15	---			.00	---	---	.00		---
16	---			.00	---	---	.00		---
17	---			.00	---	---	.00		---
18	---			.00	---	---	.00		---
19	---			.00	---	---	.00		---
20	---			.00	---	---	.00		---
21	.00			.00	---	---	.00		---
22	.00			.00	---	---	.00		---
23	.00			.00	---	---	.00		---
24	.00			.00	---	---	.00		---
25	.00			.00	---	---	.00		---
26	.00			.00	---	---	.00		---
27	.00			.00	---	---	.00		---
28	.00			.00	---	---	.00		---
29	.00			.37	862	15	.00		---
30	.00			.17	---	3.8	.00		---
31	---			.00	---	---	---		

07124350 CARPIOS CANYON NEAR JANSEN, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	.00	---	.00	.00	---	---	.00		---
2	.00	---	.00	4.7	---	428	.00		---
3	3.6	---	252	.59	---	17	.00		---
4	4.8	---	463	.00	---	---	.00		---
5	.00	---	---	.00	---	395	.00		---
6	.00	---	---	3.1	3990	395	.00		---
7	.00	---	---	3.8	---	431	20		1180
8	.00	---	---	.00	---	---	.05		---
9	.00	---	---	85	5080	5180	.01		---
10	.00	---	---	20	---	508	.00		---
11	.00	---	---	27	2850	1250	.00		---
12	.18	---	2.6	21	2390	434	.00		---
13	.00	---	---	.03	---	.02	.00		---
14	.00	---	---	.01	---	---	.00		---
15	.00	---	---	.01	---	---	.00		---
16	.00	---	---	23	4740	1510	.00		---
17	1.8	---	101	3.2	---	27	.00		---
18	.00	---	---	1.2	---	1.1	.00		---
19	.00	---	---	.01	---	---	.00		---
20	.00	---	---	.01	---	---	.00		---
21	.00	---	---	.01	---	---	.00		---
22	.00	---	---	.01	---	---	.00		---
23	.00	---	---	.00	---	---	.00		---
24	.00	---	---	.00	---	---	.00		---
25	.00	---	---	.00	---	---	.00		---
26	47	7680	10300	.00	---	---	.00		---
27	.09	---	.34	.00	---	---	.00		---
28	.00	---	---	.00	---	---	.00		---
29	.00	---	---	.00	---	---	.00		---
30	.00	---	---	.00	---	---	.00		---
31	.00	---	---	.00	---	---	---		
TOTAL	57.47	---	11118.94	192.68	---	10576.12	20.06		1180
YEAR	275.67		23310.88						

07124400 TRINIDAD LAKE NEAR TRINIDAD, CO

LOCATION.--Lat 37°08'27", long 104°33'03", in NE¼SW¼ sec.27, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, in valve house near center of dam on Purgatoire River and 3.2 mi (5.1 km) southwest of courthouse in Trinidad.

DRAINAGE AREA.--672 mi² (1,740 km²).

PERIOD OF RECORD.--August 1977 to current year.

REVISED RECORDS.--WDR-CO-78-1: 1977(M).

GAGE.--Water-stage recorder. Datum of gage is, National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers).

REMARKS.--Reservoir is formed by a rock and earthfill dam completed in 1977. Storage began Aug. 19, 1977. Total capacity, 158,500 acre-ft (195 hm³), at elevation 6,276.0 ft (1,912.92 m). Elevation of high crest of spillway, 6,258 ft (1,907.44 m), with capacity of 117,400 acre-ft (145 hm³). Elevation of notch crest in spillway is 6,243.0 ft (1,902.87 m), capacity, 89,170 acre-ft (110 hm³). Permanent pool is 4,500 acre-ft (5.55 hm³) at elevation 6,143.0 ft (1,872.39 m). Elevation of outlet invert is 6,095.0 ft (1,857.76 m). Reservoir is used for flood control, storage for irrigation, and to help control sedimentation. Figures given are total contents.

COOPERATION.--Capacity tables were furnished by U.S. Army, Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 58,069 acre-ft (71.6 hm³) June 26, 1980, elevation, 6,222.37 ft (1,896.578 m); no contents prior to Aug. 19, 1977.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 46,600 acre-ft (57.5 hm³) Sept. 8, elevation, 6,212.94 ft (1,893.704 m); minimum contents, 26,600 acre-ft (32.8 hm³) Aug. 2.

Capacity table (elevation, in feet, and contents, in acre-feet)

6,175.0	15,900	6,200.0	33,530	6,220.0	55,029
6,180.0	18,700	6,210.0	43,330	6,230.0	68,580
6,190.0	25,360				

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40200	39800	40600	41400	42000	42500	43400	39100	31700	26900	27600	43500
2	40200	39800	40700	41500	42000	42600	43400	38800	31800	26700	26600	43400
3	40100	39900	40700	41500	42100	42600	43400	38500	31800	27500	27500	43500
4	40000	39900	40700	41500	42100	42600	43400	38200	31800	27900	27600	43600
5	39900	40000	40700	41500	42100	42700	43500	37900	31800	28100	27500	43600
6	39900	40000	40700	41600	42100	42700	43500	37600	31900	28200	27600	43500
7	39800	40000	40700	41600	42100	42700	43500	37300	31900	28300	28200	46400
8	39700	40100	40800	41600	42200	42700	43500	37000	32000	28300	29200	46600
9	39600	40100	40800	41600	42200	42800	43500	36700	31800	28400	30400	46100
10	39500	40100	40800	41600	42100	42800	43600	36400	31500	28500	33900	45400
11	39400	40200	40800	41700	42100	42900	43600	36100	31300	28500	37300	45100
12	39400	40200	40800	41700	42200	42900	43600	35800	31000	28800	40200	44200
13	39400	40200	40900	41700	42200	43000	43600	35500	30900	28800	40000	43100
14	39300	40200	40900	41700	42200	43000	43600	35200	30600	28800	39100	42600
15	39300	40100	41000	41700	42300	43000	43500	34900	30400	28600	38000	42500
16	39400	40100	41000	41700	42300	43100	43300	34600	30100	28300	37400	42500
17	39400	40100	41000	41800	42300	43100	43200	34400	29800	28300	37600	42400
18	39400	40100	47100	41800	42300	43100	43000	34100	29600	28700	38000	42400
19	39400	40200	47100	41800	42300	43100	42800	33800	29300	28600	38500	42400
20	39500	40200	47100	41800	42400	43200	42600	33500	29000	28400	38900	42400
21	39500	40200	47100	41800	42400	43200	42300	33200	28800	28200	39300	42400
22	39500	40300	41200	41900	42400	43200	42000	32900	28500	28000	39700	42500
23	39500	40300	41200	41900	42400	43200	41700	32600	28300	27700	40000	42500
24	39600	40300	41200	41900	42400	43300	41300	32400	28000	27500	40300	42500
25	39600	40400	41300	41900	42500	43300	41000	32100	27800	27300	40500	42500
26	39600	40400	41300	41900	42500	43300	40700	31900	27500	28500	40700	42400
27	39600	40400	41300	42000	42500	43300	40400	31600	27400	28800	41800	42300
28	39700	40500	41300	42000	42500	43300	40000	31400	27300	29100	42600	42300
29	39700	40600	41400	42000	---	43400	39700	31400	27100	28600	43000	42300
30	39800	40600	41400	42000	---	43400	39400	31500	26900	27800	43400	42300
31	39800	---	41400	42000	---	43400	---	31600	---	27700	43500	---
MAX	40200	40600	47100	42000	42500	43400	43600	39100	32000	29100	43500	46600
MIN	39300	39800	40600	41400	42000	42500	39400	31400	26900	26700	26600	42300

WTR YR 1981 MAX 47100 MIN 26600

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO

--Lat 37°08'37", long 104°32'49", in SW¼NE¼ sec.27, T.33 S., R.64 W., Las Animas County, Hydrologic 1020010, on left bank at toe of dam and 3.0 mi (4.8 km) southwest of courthouse in Trinidad.

AREA.--672 mi² (1,740 km²).

WATER-DISCHARGE RECORDS

RECORD.--December 1976 to current year.

ter-stage recorder with concrete control. Datum of gage is 6,073.64 ft (1,851.245 m), National Geodetic al Datum of 1929 (levels by U.S. Army, Corps of Engineers). Auxillary gage is water-stage recorder in r about 1,000 ft (305 m) downstream.

-Records good. Natural flow of stream affected by diversions above station for irrigation of about acres (24 km²). Flow since Aug. 19, 1977, completely regulated by Trinidad Lake (station 07124400) ately upstream.

FOR PERIOD OF RECORD.--Maximum discharge, 963 ft³/s (27.3 m³/s) Sept. 10, 1981, gage height, 7.89 ft m); no flow at times many years.

FOR CURRENT YEAR.--Maximum discharge, 963 ft³/s (27.3 m³/s) at 2100 Sept. 10, gage height, 7.89 ft m); no flow Mar. 12-24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
18	.02	.03	.04	2.8	.02	.03	177	.04	162	102	93
35	.02	.03	.04	.04	.02	.03	177	8.5	157	129	147
45	.02	.03	.04	.04	.02	.03	177	19	9.5	101	149
45	.02	12	.04	.04	.02	.03	177	19	.19	104	149
45	.02	17	.04	.04	.02	.03	177	22	.16	120	161
45	.02	5.0	.04	.04	.02	.03	154	23	.15	109	166
45	.02	.03	.04	.04	.02	.03	167	23	.15	74	77
45	.02	.02	.05	.04	.02	.03	167	41	.15	.32	319
45	.02	.02	.04	12	.01	.03	167	160	25	.18	548
45	.02	.02	.04	10	.01	.03	166	205	55	.18	656
45	.02	.02	.04	.05	.01	.03	166	181	56	388	917
33	.02	.02	.10	.04	.00	.02	166	139	62	335	912
26	.02	.02	.07	.04	.00	.02	166	157	70	727	916
25	25	.02	.07	.04	.00	.02	166	158	89	823	532
.08	47	.02	.07	.04	.00	63	159	160	157	818	275
.08	11	.02	.07	8.4	.00	91	155	164	184	821	259
.08	.06	.02	.06	13	.00	88	155	166	173	395	248
.08	.05	.02	.06	4.4	.00	107	155	166	166	.44	207
.08	.05	.03	.05	.03	.00	117	155	166	164	.38	154
.08	.05	.03	.05	.03	.00	134	150	165	163	.38	154
.06	.05	.03	.05	.03	.00	142	147	165	164	.32	121
.06	.05	.03	.05	.03	.00	149	147	155	165	.32	107
.06	.05	.03	.15	.02	.00	153	148	152	157	.27	120
.18	.05	.04	.04	.02	.00	171	149	156	153	.27	128
.02	.04	.04	.04	.02	.06	181	148	164	153	.27	128
.02	.03	.04	.04	.02	.03	181	149	164	102	.27	129
.03	.03	.04	.04	.02	3.0	181	143	163	46	.38	129
.03	.03	.04	.04	.02	1.4	181	140	164	.11	.11	104
.02	.03	.04	.08	---	.03	181	130	163	299	.06	82
.02	.03	.04	5.4	---	.03	178	29	162	484	.08	82
.02	---	.04	8.0	---	.03	---	24	---	107	26	---
543.00	83.86	34.81	14.98	51.33	4.77	2298.39	4653	3750.54	3523.41	5076.23	8169
17.5	2.80	1.12	.48	1.83	.15	76.6	150	125	114	164	272
45	47	17	8.0	13	3.0	181	177	205	484	823	917
.02	.02	.02	.04	.02	.00	.02	24	.04	.11	.06	77
1080	166	69	30	102	9.5	4560	9230	7440	6990	10070	16200

1980 TOTAL 26872.54 MEAN 73.4 MAX 452 MIN .00 AC-FT 53300
1981 TOTAL 28203.32 MEAN 77.3 MAX 917 MIN .00 AC-FT 55940

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1977 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: March 1977 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 47,000 mg/L Aug. 1, 1979; minimum daily, no flow many days during year.
SEDIMENT LOADS: Maximum daily, 45,700 tons (41,460 t) Aug. 12, 1981; minimum daily, no flow many days during year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 30,300 mg/L Aug. 12; minimum daily, no flow many days during year.
SEDIMENT LOADS: Maximum daily, 45,700 tons (41,460 t) Aug. 12; minimum daily, no flow many days during year.

WATER-QUALITY DATA, OCTOBER 1980 TO SEPTEMBER 1981

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	23	34	2.1	.08	8	.00	.04	---	---
2	35	30	2.8	.07	8	.00	.03	---	---
3	40	28	3.0	.07	8	.00	.02	---	---
4	47	30	3.8	.06	8	.00	.02	---	---
5	50	26	3.5	.05	8	.00	.00	---	---
6	50	22	3.0	.07	8	.00	.00	---	---
7	50	28	3.8	.29	8	.00	.00	---	---
8	50	27	3.6	.35	8	.00	.00	---	---
9	45	26	3.2	.32	8	.00	.00	---	---
10	42	28	3.2	.29	8	.00	.00	---	---
11	42	26	2.9	.27	8	.00	.00	---	---
12	42	23	2.6	.19	8	.00	.00	---	---
13	40	24	2.6	.16	8	.00	.00	---	---
14	24	22	1.4	.14	8	.00	.00	---	---
15	1.0	8	.02	9.4	10	.25	.00	---	---
16	.02	0	.00	16	12	.52	.00	---	---
17	15	12	.49	5.7	9	.14	.00	---	---
18	.15	12	.00	.00	---	---	.04	---	---
19	.04	10	.00	.00	---	---	9.1	12	.37
20	.08	10	.00	.00	---	---	14	6	.23
21	.07	10	.00	.00	---	---	14	4	.15
22	.05	10	.00	.00	---	---	4.8	4	.05
23	.04	10	.00	.00	---	---	.14	4	.00
24	.04	10	.00	.00	---	---	.14	4	.00
25	.60	10	.02	.00	---	---	.14	4	.00
26	.76	10	.02	34	21	2.8	.12	4	.00
27	.58	10	.02	50	26	3.5	.14	4	.00
28	.56	10	.02	17	7	1.2	.10	4	.00
29	.42	10	.01	.05	7	.00	.10	4	.00
30	.39	10	.01	.05	7	.00	.08	4	.00
31	.19	10	.00	---	---	---	.08	4	.00

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	.08	4	.00	.00	---	---	.00	---	---
2	.36	4	.00	.00	---	---	.00	---	---
3	.22	4	.00	.00	---	---	.00	---	---
4	.22	4	.00	.00	---	---	.00	---	---
5	.22	4	.00	.00	---	---	.06	4	.00
6	.22	4	.00	.00	---	---	.04	4	.00
7	.22	4	.00	.06	4	.00	.04	4	.00
8	.17	4	.00	.03	4	.00	.04	4	.00
9	.04	4	.00	.04	4	.00	.04	4	.00
10	9.7	16	.42	.03	4	.00	.04	4	.00
11	15	4	.16	.03	4	.00	.04	4	.00
12	13	4	.14	.03	4	.00	.04	4	.00
13	4.8	4	.05	45	49	9.0	.16	4	.00
14	.00	---	---	63	6	1.0	.03	4	.00
15	.00	---	---	24	2	.65	.02	4	.00
16	.00	---	---	.00	---	---	.02	4	.00
17	.00	---	---	.00	---	---	.02	4	.00
18	.00	---	---	.00	---	---	.00	---	---
19	.00	---	---	.00	---	---	.00	---	---
20	.00	---	---	.00	---	---	.00	---	---
21	.00	---	---	.00	---	---	.00	---	---
22	.00	---	---	.00	---	---	.00	---	---
23	.00	---	---	.00	---	---	.00	---	---
24	.00	---	---	.00	---	---	.00	---	---
25	.00	---	---	.00	---	---	.00	---	---
26	.00	---	---	.00	---	---	.00	---	---
27	.00	---	---	.00	---	---	.00	---	---
28	.00	---	---	.00	---	---	.00	---	---
29	.00	---	---	.00	---	---	.00	---	---
30	.00	---	---	---	---	---	.00	---	---
31	.00	---	---	---	---	---	.00	---	---

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	.14	3	.00	.07	0	.00	210	23	13
2	.12	3	.00	.07	0	.00	232	26	16
3	.10	3	.00	.07	0	.00	350	30	28
4	.07	3	.00	.06	0	.00	360	14	14
5	.06	3	.00	.05	0	.00	311	16	13
6	.04	3	.00	.06	0	.00	313	14	12
7	.04	3	.00	.05	0	.00	313	10	8.5
8	.04	3	.00	.05	0	.00	313	12	10
9	.04	3	.00	.05	0	.00	351	14	13
10	1.7	10	.05	.05	0	.00	446	40	48
11	1.6	7	.03	.05	0	.00	452	33	40
12	.20	3	.00	.04	0	.00	427	16	18
13	.05	3	.00	.05	0	.00	369	13	13
14	.05	3	.00	.05	0	.00	332	9	8.1
15	.04	3	.00	.07	0	.00	333	10	9.0
16	.04	3	.00	.07	0	.00	334	7	6.3
17	.04	2	.00	.07	0	.00	334	13	12
18	.04	0	.00	.06	0	.00	335	10	9.0
19	.04	0	.00	142	40	25	336	14	13
20	.04	0	.00	91	16	8.7	327	12	11
21	2.6	8	.06	.05	0	.00	322	12	10
22	15	0	.00	.05	0	.00	322	11	9.6
23	36	4	.39	.05	0	.00	323	10	8.7
24	20	2	.11	.05	0	.00	323	7	6.1
25	.05	0	.00	.05	0	.00	323	9	7.8
26	.05	0	.00	.06	0	.00	255	16	11
27	.06	0	.00	58	22	3.4	321	12	10
28	.07	0	.00	71	19	3.6	321	3	2.6
29	.07	0	.00	90	25	6.1	322	6	5.2
30	.07	0	.00	152	24	9.8	310	1	.84
31	---	---	---	206	26	14	---	---	---

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	286	8	6.2	220	2	1.2	161	18	4.3
2	277	8	6.0	220	2	1.2	161	8	3.5
3	277	8	6.0	220	2	1.2	159	6	2.6
4	276	8	6.0	220	2	1.2	159	10	4.3
5	239	11	7.1	220	2	1.2	150	13	5.3
6	199	8	4.3	220	2	1.2	145	13	5.1
7	189	8	4.1	220	3	1.8	145	13	5.1
8	189	6	3.1	204	4	2.2	145	13	5.1
9	204	4	2.2	197	1	.53	104	49	14
10	234	5	3.2	197	1	.53	82	22	4.9
11	240	4	2.6	197	1	.53	82	18	4.0
12	240	4	2.6	197	1	.53	59	23	3.7
13	240	4	2.6	197	2	1.1	48	16	2.1
14	238	3	1.9	197	1	.53	35	15	1.4
15	254	3	2.1	195	2	1.1	30	56	4.5
16	270	2	1.5	195	3	1.6	30	37	3.0
17	270	1	.73	195	3	1.6	30	7	.57
18	266	1	.72	193	8	4.2	30	24	1.9
19	263	2	1.4	191	6	3.1	30	2	.16
20	263	1	.71	177	4	1.9	31	28	2.3
21	259	2	1.4	161	4	1.7	31	1	.08
22	243	3	2.0	139	4	1.5	31	5	.42
23	234	4	2.5	128	3	1.0	26	5	.35
24	234	2	1.3	128	3	1.0	22	14	.83
25	234	6	3.8	144	6	2.3	20	2	.11
26	229	5	3.1	161	6	2.6	20	5	.27
27	220	4	2.4	165	6	2.7	20	4	.22
28	220	2	1.2	163	8	3.5	19	4	.21
29	220	2	1.2	163	3	1.3	19	10	.51
30	220	2	1.2	163	2	.88	18	12	.58
31	220	1	.59	163	7	3.1	---	---	---
TOTAL	7447	---	85.75	5750	---	50.03	2042	---	81.41
YEAR	26988.56		737.91						

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	18	18	.87	.02	---	---	.03	---	---
2	35	30	2.8	.02	---	---	.03	---	---
3	45	16	1.9	.02	---	---	.03	---	---
4	45	18	2.2	.02	---	---	12	11	.50
5	45	20	2.4	.02	---	---	17	7	.32
6	45	16	1.9	.02	---	---	5.0	8	.11
7	45	19	2.3	.02	---	---	.03	---	---
8	45	14	1.7	.02	---	---	.02	---	---
9	45	14	1.7	.02	---	---	.02	---	---
10	45	12	1.5	.02	---	---	.02	---	---
11	45	12	1.5	.02	---	---	.02	---	---
12	33	7	.62	.02	---	---	.02	---	---
13	26	9	.63	.02	---	---	.02	---	---
14	25	11	.74	25	30	2.0	.02	---	---
15	.08	---	---	47	5	.63	.02	---	---
16	.08	---	---	11	5	.15	.02	---	---
17	.08	---	---	.06	---	---	.02	---	---
18	.08	---	---	.05	---	---	.02	---	---
19	.08	---	---	.05	---	---	.03	---	---
20	.08	---	---	.05	---	---	.03	---	---
21	.06	---	---	.05	---	---	.03	---	---
22	.06	---	---	.05	---	---	.03	---	---
23	.06	---	---	.05	---	---	.03	---	---
24	.18	---	---	.05	---	---	.04	---	---
25	.02	---	---	.04	---	---	.04	---	---
26	.02	---	---	.03	---	---	.04	---	---
27	.03	---	---	.03	---	---	.04	---	---
28	.03	---	---	.03	---	---	.04	---	---
29	.02	---	---	.03	---	---	.04	---	---
30	.02	---	---	.03	---	---	.04	---	---
31	.02	---	---	---	---	---	.04	---	---

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	.04	---	---	2.8	8	.06	.02	---	---
2	.04	---	---	.04	---	---	.02	---	---
3	.04	---	---	.04	---	---	.02	---	---
4	.04	---	---	.04	---	---	.02	---	---
5	.04	---	---	.04	---	---	.02	---	---
6	.04	---	---	.04	---	---	.02	---	---
7	.04	---	---	.04	---	---	.02	---	---
8	.05	---	---	.04	---	---	.02	---	---
9	.04	---	---	12	---	.50	.01	---	---
10	.04	---	---	10	8	.22	.01	---	---
11	.04	---	---	.05	---	---	.01	---	---
12	.10	---	---	.04	---	---	.00	---	---
13	.07	---	---	.04	---	---	.00	---	---
14	.07	---	---	.04	---	---	.00	---	---
15	.07	---	---	.04	---	---	.00	---	---
16	.07	---	---	8.4	---	.30	.00	---	---
17	.06	---	---	13	7	.25	.00	---	---
18	.06	---	---	4.4	7	.08	.00	---	---
19	.05	---	---	.03	---	---	.00	---	---
20	.05	---	---	.03	---	---	.00	---	---
21	.05	---	---	.03	---	---	.00	---	---
22	.05	---	---	.03	---	---	.00	---	---
23	.15	---	---	.02	---	---	.00	---	---
24	.04	---	---	.02	---	---	.00	---	---
25	.04	---	---	.02	---	---	.06	---	---
26	.04	---	---	.02	---	---	.03	---	---
27	.04	---	---	.02	---	---	3.0	10	.09
28	.04	---	---	.02	---	---	1.4	12	.05
29	.08	---	---	---	---	---	.03	---	---
30	5.4	9	.19	---	---	---	.03	---	---
31	8.0	8	.17	---	---	---	.03	---	---

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	.03	---	---	177	18	8.6	.04	---	---
2	.03	---	---	177	17	8.1	8.5	32	1.5
3	.03	---	---	177	16	7.6	19	46	2.4
4	.03	---	---	177	17	8.1	19	30	1.5
5	.03	---	---	177	16	7.6	22	18	1.1
6	.03	---	---	154	15	6.2	23	18	1.1
7	.03	---	---	167	15	6.8	23	14	.87
8	.03	---	---	167	16	7.2	41	17	1.9
9	.03	---	---	167	18	8.1	160	51	29
10	.03	---	---	166	19	8.5	205	40	23
11	.03	---	---	166	16	7.2	181	14	6.8
12	.02	---	---	166	17	7.6	139	12	4.5
13	.02	---	---	166	10	4.5	157	16	6.8
14	.02	---	---	166	12	5.4	158	15	6.4
15	63	42	10	159	17	7.3	160	13	5.6
16	91	8	2.0	155	12	5.0	164	11	4.9
17	88	3	.71	155	9	3.8	166	12	5.4
18	107	11	3.1	155	9	3.8	166	11	4.9
19	117	6	1.9	155	13	5.4	166	9	4.0
20	134	12	4.3	150	12	4.9	165	5	2.2
21	142	5	1.9	147	16	6.4	165	11	4.9
22	149	7	2.8	147	16	6.4	155	14	5.9
23	153	20	8.3	146	23	9.2	152	11	4.5
24	171	30	14	149	24	9.7	156	15	6.3
25	181	21	10	148	20	8.0	164	16	7.1
26	181	20	9.8	149	31	12	164	18	8.0
27	181	18	8.8	143	24	9.3	163	17	7.5
28	181	17	8.3	140	11	4.2	164	12	5.3
29	181	13	6.4	130	17	6.0	163	12	5.3
30	178	16	7.7	29	50	3.9	162	14	6.1
31	---	---	---	24	30	1.9	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	162	14	6.1	102	49	12	93	90	23
2	157	14	5.9	124	47	16	147	79	31
3	9.5	14	.36	101	96	26	149	33	13
4	.19	14	.00	104	68	19	149	35	14
5	.16	14	.00	120	55	18	161	38	17
6	.15	14	.00	109	41	12	166	33	15
7	.15	14	.00	74	40	8.0	77	33	6.9
8	.15	14	.00	.32	40	.03	319	429	453
9	25	40	2.8	.18	40	.02	548	124	183
10	55	16	2.4	.18	40	.02	656	120	213
11	56	14	2.1	388	17000	32300	917	54	134
12	62	14	2.3	335	30300	45700	912	305	751
13	70	24	4.5	727	924	1890	916	80	198
14	89	24	5.8	823	160	356	532	138	198
15	157	26	11	818	123	272	276	60	45
16	184	26	13	821	111	246	259	55	38
17	173	24	11	395	144	154	248	36	24
18	166	24	11	.44	60	.07	207	26	15
19	164	35	15	.38	10	.01	154	36	15
20	163	46	20	.38	10	.01	154	34	14
21	164	40	18	.32	10	.00	121	36	12
22	165	32	14	.32	10	.00	107	34	9.8
23	157	29	12	.27	10	.00	120	32	10
24	153	24	9.9	.27	10	.00	128	36	12
25	153	26	11	.27	10	.00	128	34	12
26	102	26	7.2	.27	10	.00	129	32	11
27	46	1560	1270	.38	10	.01	129	30	10
28	.11	---	---	.11	10	.00	104	28	7.9
29	299	2280	1980	.06	10	.00	82	36	8.0
30	484	62	81	.08	10	.00	82	30	6.6
31	107	54	16	26	1350	292	---	---	---
TOTAL	3523.41	---	3532.36	5076.23	---	81321.17	8169	---	2500.2
YEAR	28203.32		87865.59						

07124500 PURGATOIRE RIVER AT TRINIDAD, CO

LOCATION.--Lat 37°10'15", long 104°30'31", in SW¼SE¼ sec.13, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, on left bank 90 ft (27 m) downstream from railroad bridge and 680 ft (210 m) downstream from Animas Street Bridge in Trinidad.

DRAINAGE AREA.--795 mi² (2,059 km²).

PERIOD OF RECORD.--October 1895 to September 1899, August to December 1905, November 1906 to March 1907, October 1907 to November 1908, May to August 1909 (gage heights and discharge measurements only), September 1909 to November 1912, October 1915 to September 1960, October 1961 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1915, published as "Purgatory River."

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1311: 1935(M). WSP 1731: 1925(M), 1942(M).

GAGE.--Water-stage recorder. Datum of gage is 5,979.76 ft (1,822.631 m) National Geodetic Vertical Datum of 1929. See WSP 1711 or 1731 for history of changes prior to Dec. 11, 1950. Dec. 11, 1950, to Sept. 30, 1960, water-stage recorder at site 180 ft (55 m) upstream at datum 2.00 ft (0.610 m) higher. Since May 30, 1955, supplemental nonrecording gage at site 90 ft (27 m) upstream on downstream side of railroad bridge; at datum 3.00 ft (0.914 m) lower prior to Oct. 1, 1962, and at present datum thereafter.

REMARKS.--Records good except during period of no gage-height record July 14-24, which are poor. Diversions above station for irrigation of about 6,500 acres (26.3 km²). Peak flows regulated to some extent by Trinidad Dam, 3.8 mi (6.1 km) upstream, since January 1975. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--68 years (water years 1896-99, 1908, 1910-12, 1916-60, 1962-76), 83.3 ft³/s (2.359 m³/s), 60,350 acre-ft/yr (74.4 hm³/yr), prior to completion of Trinidad Dam; 5 years (water years 1977-81), 57.7 ft³/s (1.634 m³/s), 41,800 acre-ft/yr (51.5 hm³/yr), subsequent to completion of Trinidad Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s (793 m³/s) May 19, 1955, gage height, 14.35 ft (4.374 m), site and datum then in use, from rating curve extended above 2,800 ft³/s (79 m³/s), on basis of indirect measurements of peak flow above and below station; no flow for several days during summer of 1896, June 11, 1950, Sept. 20, 25, 28, 29, Oct. 3-5, 7, 8, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1859, 45,400 ft³/s (1,290 m³/s) Sept. 30, 1904, gage height, 16.6 ft (5.06 m), at site 680 ft (210 m) upstream, by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,980 ft³/s (113 m³/s) at 2300 Aug. 11, gage height, 6.26 ft (1.908 m); minimum daily, 0.30 ft³/s (0.008 m³/s) Apr. 7, 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	2.0	1.1	.75	4.8	.80	.50	171	13	159	85	135
2	34	1.2	1.2	.70	.90	.65	.40	166	26	159	123	137
3	46	1.4	1.2	.75	.70	1.6	.40	166	33	48	99	148
4	45	1.4	12	.80	.45	1.4	.80	171	26	14	88	150
5	45	1.4	20	.80	.45	.80	.80	171	27	5.1	110	161
6	46	1.4	10	.80	.60	.75	.40	150	27	3.7	192	166
7	45	1.2	1.1	.75	.35	.75	.30	159	26	3.0	105	151
8	45	1.0	1.1	.80	.45	.75	.50	161	40	2.8	16	355
9	45	1.2	1.0	.75	9.4	.65	.40	166	144	24	52	608
10	46	1.0	1.0	.75	13	.75	.40	163	194	54	152	797
11	46	.95	1.1	.80	1.1	3.1	.30	159	171	54	307	1090
12	34	1.2	1.0	.75	.90	1.2	.30	163	127	59	527	1140
13	28	1.4	1.0	.75	.90	.95	.40	163	154	74	603	1140
14	29	29	.90	.80	.80	.80	.40	161	154	80	661	670
15	6.2	52	.90	.75	.75	.80	64	152	154	180	721	278
16	3.5	24	.90	.80	7.3	.75	88	150	154	215	878	262
17	3.5	2.4	.80	.80	16	.65	87	154	159	150	527	249
18	3.0	2.1	.80	.80	8.3	.95	109	154	159	150	21	188
19	3.0	1.8	.80	.80	.90	.75	116	152	159	150	16	157
20	3.0	1.6	.80	.75	.75	.75	137	146	161	160	16	157
21	2.8	1.4	.75	.75	1.2	1.1	143	141	159	175	16	125
22	2.7	1.2	.75	.80	.90	.95	152	141	152	190	16	107
23	2.8	1.4	.70	.85	.80	.80	154	143	146	180	17	117
24	3.0	1.2	.70	.75	.75	1.5	175	148	152	148	17	125
25	3.5	1.4	.75	.70	.65	.95	180	148	161	146	16	123
26	2.3	1.2	.75	.70	.65	.65	178	146	159	218	16	121
27	2.3	1.6	.75	.70	.65	3.1	178	137	159	36	16	121
28	2.0	1.4	.75	.70	.65	5.6	180	137	157	16	16	96
29	2.3	1.4	.75	.70	---	1.0	178	157	157	282	16	76
30	2.0	1.2	.75	4.4	---	.65	175	46	157	510	15	76
31	1.4	---	.75	8.1	---	.50	---	42	---	123	74	---
TOTAL	601.3	143.05	66.85	34.60	75.05	36.40	2300.30	4584	3667	3768.6	5534	9226
MEAN	19.4	4.77	2.16	1.12	2.68	1.17	76.7	148	122	122	179	308
MAX	46	52	20	8.1	16	5.6	180	171	194	510	878	1140
MIN	1.4	.95	.70	.70	.35	.50	.30	42	13	2.8	15	76
AC-FT	1190	284	133	69	149	72	4560	9090	7270	7480	10980	18300

CAL YR 1980 TOTAL 28219.20 MEAN 77.1 MAX 425 MIN .70 AC-FT 55970
WTR YR 1981 TOTAL 30037.15 MEAN 82.3 MAX 1140 MIN .30 AC-FT 59580

07126100 LUNING ARROYO NEAR MODEL, CO

LOCATION.--Lat 37°18'16", long 104°00'54", in sec.33, T.31 S., R.59 W., Las Animas County, Hydrologic Unit 11020010, on right bank 600 ft (180 m) downstream from ford, 6 mi (10 km) upstream from mouth, 13.5 mi (21.7 km) east of Model, and 29 mi (47 km) northeast of Trinidad.

DRAINAGE AREA.--86 mi² (233 km²).

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 5,150 ft (1,570 m), from topographic map.

REMARKS.--Records good. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--15 years, 1.76 ft³/s (0.050 m³/s), 1,280 acre-ft/yr (1.58 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,400 ft³/s (2.66 m³/s) Aug. 9, 1968, gage height, 12.46 ft (3.798 m), from rating curve extended above 32 ft³/s (0.91 m³/s), on basis of slope-area measurements at gage heights 8.78 and 11.39 ft (2.676 and 3.472 m); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,260 ft³/s (121 m³/s) May 30, time unknown, gage height, 11.2 ft (3.41 m), result of indirect determination of peak flow; other peaks above base of 500 ft³/s (14 m³/s), which occurred on May 30, gage height, 11.2 ft (3.41 m), time unknown, are known to occurred July through Aug. during periods of no gage-height record; no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	35	.00	20	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	2.0	.00	10	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	20	.00	80	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	10	4.0	20	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	1.0	.02	5.0	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	400	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	200	14
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	35	4.6
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10	.02
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	400	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	200	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	250	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	125	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	90	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	150	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	500	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	200	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	15	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.56	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	10	5.0	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	200	16	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	30	.00	.00
29	.00	.00	.00	.00	---	.00	.00	100	.00	10	.00	.00
30	.00	.00	.00	.00	---	.00	.00	800	.00	50	.00	.00
31	.00	---	.00	.00	---	.00	---	80	---	100	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	980.00	68.00	404.02	2731.56	18.62
MEAN	.000	.000	.000	.000	.000	.000	.000	31.6	2.27	13.0	88.1	.62
MAX	.00	.00	.00	.00	.00	.00	.00	800	35	200	500	14
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	1940	135	801	5420	37

CAL YR 1980 TOTAL 2.54 MEAN .007 MAX .99 MIN .00 AC-FT 5.1
WTR YR 1981 TOTAL 4202.20 MEAN 11.5 MAX 800 MIN .00 AC-FT 8340

NOTE.--NO GAGE-HEIGHT RECORD MAY 29 TO JUNE 5, JULY 26 TO AUG. 17.

07126200 VAN BREMER ARROYO NEAR MODEL, CO

LOCATION.--Lat 37°20'45", long 103°57'27", in sec.13, T.31 S., R.59 W., Las Animas County, Hydrologic Unit 11020010, on right bank 3 mi (5 km) upstream from mouth, 16 mi (26 km) east of Model, and 33 mi (53 km) northeast of Trinidad.

DRAINAGE AREA.--168 mi^2 (435 km^2).

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 4,960 ft (1,512 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--15 years, 2.75 ft^3/s (0.078 m^3/s), 1,990 acre-ft/yr (2.45 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,240 ft^3/s (177 m^3/s) May 26, 1967, gage height, 9.4 ft (2.87 m), from floodmarks, from rating curve extended above 65 ft^3/s (1.8 m^3/s), on basis of slope-area measurement of peak flow; maximum gage height, 9.98 ft (3.042 m) Aug. 9, 1979 from floodmark; no flow June 7-13, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 450 ft^3/s (13 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
May 30	0230	*3,830	108	8.15	2.484	July 4	0030	740	21.0	4.60	1.402

Minimum daily discharge, 0.03 ft^3/s (0.001 m^3/s) many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.12	.12	.15	.12	.09	.12	.09	39	.40	.20	.25
2	.15	.12	.12	.15	.12	.12	.12	.09	3.0	.50	.20	.25
3	.12	.12	.12	.15	.12	.15	.09	.09	25	26	90	.25
4	.12	.12	.12	.15	.15	.50	.09	.09	14	128	25	.25
5	.12	.12	.12	.15	.15	.30	.09	.09	1.5	3.6	5.0	.25
6	.12	.15	.12	.15	.15	.29	.09	.12	.60	.70	400	.30
7	.12	.15	.15	.15	.15	.18	.09	.09	.25	.25	250	34
8	.12	.15	.15	.15	.15	.18	.06	.09	.21	.21	40	4.5
9	.12	.15	.15	.15	.15	.18	.06	.09	.15	.18	15	1.5
10	.12	.15	.15	.15	.15	.15	.06	.09	.12	.12	500	.80
11	.12	.15	.15	.15	.15	.15	.06	.06	.12	.03	250	.50
12	.09	.15	.15	.15	.15	.15	.06	.06	.09	.03	300	.30
13	.09	.15	.18	.15	.15	.15	.06	.09	.06	.06	150	.30
14	.09	.12	.18	.15	.15	.15	.06	.09	.09	.06	100	.30
15	.09	.12	.18	.15	.12	.15	.09	.09	.06	.06	200	.40
16	.09	.12	.18	.15	.12	.15	.09	.09	.06	.06	600	.40
17	.12	.12	.18	.15	.12	.09	.09	.09	.03	.12	250	.40
18	.12	.12	.15	.15	.12	.12	.09	.09	.03	.15	25	.50
19	.12	.12	.15	.15	.12	.12	.12	.09	.09	.15	8.5	.40
20	.12	.12	.18	.15	.09	.12	.12	.09	.12	.09	3.6	.40
21	.12	.12	.18	.12	.03	.30	.12	.06	.12	.09	1.7	.30
22	.12	.12	.15	.12	.03	.25	.12	.03	.12	.09	.90	.30
23	.12	.12	.15	.12	.03	.18	.12	.03	.12	.09	.60	.25
24	.12	.12	.15	.12	.03	.15	.12	.03	.15	.09	.40	.25
25	.12	.12	.15	.12	.06	.12	.12	.03	.15	.15	.40	.25
26	.12	.12	.12	.09	.06	.12	.12	.03	.15	.25	.25	.20
27	.12	.15	.12	.09	.06	.12	.12	.03	.18	.25	.30	.20
28	.12	.15	.12	.12	.09	.12	.12	.03	.21	.21	.30	.20
29	.12	.15	.12	.09	---	.15	.12	49	.30	.21	.30	.20
30	.12	.12	.12	.09	---	.15	.09	802	.30	.21	.25	.20
31	.12	---	.15	.12	---	.12	---	81	---	.20	.25	---
TOTAL	3.60	3.93	4.53	4.20	3.09	5.27	2.88	934.04	86.38	162.61	3218.15	48.60
MEAN	.12	.13	.15	.14	.11	.17	.096	30.1	2.88	5.25	104	1.62
MAX	.15	.15	.18	.15	.15	.50	.12	802	39	128	600	34
MIN	.09	.12	.12	.09	.03	.09	.06	.03	.03	.03	.20	.20
AC-FT	7.1	7.8	9.0	8.3	6.1	10	5.7	1850	171	323	6380	96

CAL YR 1980 TOTAL 77.67 MEAN .21 MAX 5.9 MIN .06 AC-FT 154
WTR YR 1981 TOTAL 4477.28 MEAN 12.3 MAX 802 MIN .03 AC-FT 8880

07126300 PURGATOIRE RIVER NEAR THATCHER, CO

LOCATION.--Lat 37°21'30", long 103°53'44", in sec.10, T.31 S., R.58 W., Las Animas County, Hydrologic Unit 11020010, on right bank 250 ft (76 m) downstream from county road bridge at gas line crossing, 1.2 mi (1.9 km) downstream from Van Bremer Arroyo, and 18 mi (29 km) southeast of Thatcher.

DRAINAGE AREA.--1,935 mi² (5,012 km²).

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,790 ft (1,460 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Diversions above station for irrigation of about 30,000 acres (120 km²). Peak flows regulated to some extent by Trinidad Dam, 52 mi (84 km) upstream, since January 1975. Several observations at water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--10 years (water years 1967-76), 37.9 ft³/s (1.073 m³/s), 27,460 acre-ft/yr (33.9 hm³/yr), prior to completion of Trinidad Dam; 5 years (water years 1977-81), 78.7 ft³/s (2.229 m³/s), 57,020 acre-ft/yr (70.3 hm³/yr), subsequent to completion of Trinidad Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,400 ft³/s (1,200 m³/s) July 3, 1981, gage height, 22.0 ft (6.71 m), from rating curve extended above 2,100 ft³/s (59 m³/s); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of July 22, 1954, and May 19, 1955, reached stages of 26.7 and 25.2 ft (8.14 and 7.68 m), respectively, from floodmarks. Flood of June 8, 1965, reached a stage of 23.5 ft (7.16 m), from floodmarks, discharge, 47,700 ft³/s (1,350 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 42,400 ft³/s (1,200 m³/s) July 3, time unknown, gage height, 22.0 ft (6.71 m), result of indirect determination of peak flow; minimum daily, 4.2 ft³/s (0.119 m³/s) Apr. 19, June 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	30	30	23	19	19	19	8.5	412	9.3	145	42
2	12	29	29	23	15	19	17	6.8	138	13	81	35
3	12	27	28	23	16	21	16	6.5	109	10000	600	27
4	12	27	27	23	22	29	15	7.6	97	2500	250	24
5	11	27	25	23	24	32	16	7.5	50	500	90	35
6	11	27	23	23	24	28	16	8.9	40	150	3000	36
7	10	27	22	23	24	27	15	12	33	80	2400	1940
8	9.2	26	23	23	23	25	11	12	28	63	400	407
9	7.4	26	24	22	25	23	10	7.8	21	51	150	421
10	7.2	25	18	21	12	22	10	8.1	53	38	3500	517
11	9.9	25	22	19	10	21	9.6	9.2	137	26	2000	814
12	10	26	29	19	14	22	9.1	13	118	21	2200	884
13	11	26	33	21	21	26	8.9	12	36	71	1300	1110
14	14	27	30	23	25	24	8.9	10	17	26	900	999
15	13	29	28	21	27	22	8.9	8.7	15	43	1400	366
16	12	29	27	24	25	21	8.6	9.0	15	37	4000	214
17	21	29	26	22	23	19	6.0	15	17	63	2000	197
18	21	27	26	25	22	20	4.8	16	15	52	994	184
19	21	26	26	24	22	20	4.2	15	13	134	335	151
20	25	27	25	22	20	21	7.0	16	12	74	222	111
21	27	28	23	21	21	23	21	13	12	46	179	86
22	27	29	25	20	22	24	8.7	13	8.9	34	155	79
23	28	31	26	22	21	23	9.6	8.7	6.3	29	161	60
24	28	30	25	26	21	21	6.9	6.7	5.3	28	139	44
25	28	30	18	27	20	21	5.2	6.3	4.2	36	125	46
26	28	25	30	20	20	20	4.9	6.6	207	35	114	43
27	29	27	26	18	19	19	9.6	6.3	22	1590	1010	49
28	29	34	24	20	19	17	10	7.0	10	264	170	50
29	29	33	24	26	---	18	11	165	7.4	113	91	48
30	28	30	23	23	---	19	10	4950	5.5	332	62	36
31	28	---	24	22	---	21	---	272	---	487	51	---
TOTAL	570.7	839	789	692	576	687	317.9	5664.2	1664.6	16945.3	28224	9060
MEAN	18.4	28.0	25.5	22.3	20.6	22.2	10.6	183	55.5	547	910	302
MAX	29	34	33	27	27	32	21	4950	412	10000	4000	1940
MIN	7.2	25	18	18	10	17	4.2	6.3	4.2	9.3	51	24
AC-FT	1130	1660	1560	1370	1140	1360	631	11230	3300	33610	55980	17970

CAL YR 1980 TOTAL 27688.2 MEAN 75.7 MAX 2120 MIN 3.9 AC-FT 54920
WTR YR 1981 TOTAL 66029.7 MEAN 181 MAX 10000 MIN 4.2 AC-FT 131000

07126500 PURGATOIRE RIVER AT NINEMILE DAM, NEAR HIGBEE, CO

LOCATION.--Lat 37°42'53", long 103°30'38", in NW¼ sec.7, T.27 S., R.54 W., Otero County, Hydrologic Unit 11020010, on left bank at Ninemile Dam, 4 mi (6 km) southwest of Higbee, and 5.5 mi (8.8 km) upstream from Smith Canyon. Prior to Apr. 21, 1978 gage located 850 ft (260 m) upstream.

DRAINAGE AREA.--2,900 mi^2 (7,511 km^2).

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1311: 1934(M), 1936(M), 1941-42(M), 1948-49(M). WSP 1731: 1929(M).

GAGE.--Water-stage recorder. Datum of gage is 4,240.59 ft (1,292.532 m) National Geodetic Vertical Datum of 1929, supplementary adjustment of 1960. See WSP 1711 or 1731 for history of changes prior to Dec. 6, 1956. Dec. 6, 1956 to Apr. 20, 1978, at site 850 ft (160 m) upstream.

REMARKS.--Records good. Diversions for irrigation of about 32,000 acres (130 km^2) above station. Discharge computed by combining discharge of river below Ninemile Dam and Ninemile canal.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--52 years (water years 1925-76), 94.5 ft^3/s (2.676 m^3/s), 68,470 acre-ft/yr (84.4 hm^3/yr), prior to completion of Trinidad Dam; 5 years (water years 1977-81), 78.2 ft^3/s (2.215 m^3/s), 56,660 acre-ft/yr (70 hm^3/yr), subsequent to completion of Trinidad Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 105,000 ft^3/s (2,970 m^3/s) estimated, June 18, 1965, gage height, 19.6 ft (5.97 m), from floodmarks; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22,700 ft^3/s (643 m^3/s) at 0400 July 4, gage height, 9.26 ft (2.822 m); no flow May 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	30	26	24	26	23	19	65	250	13	478	54
2	12	31	26	24	24	24	24	32	341	10	159	57
3	11	31	27	24	25	22	22	12	145	842	98	48
4	10	31	26	23	23	34	21	9.1	118	7280	481	40
5	9.1	30	26	23	23	36	21	7.4	125	1800	217	40
6	9.1	27	24	23	29	35	21	8.2	72	297	105	32
7	8.2	26	23	23	21	31	19	8.2	57	159	2450	90
8	8.2	29	22	27	22	27	18	7.4	45	121	2010	1180
9	7.8	29	18	27	23	25	19	7.8	39	83	315	298
10	6.5	29	18	27	14	22	18	7.9	32	76	154	473
11	6.5	28	28	27	15	20	15	8.5	26	63	3040	504
12	6.5	27	23	27	20	24	13	7.2	120	48	1900	774
13	6.5	26	20	25	20	19	12	6.2	110	39	2110	827
14	7.0	26	22	24	26	19	9.6	6.2	46	60	1210	975
15	7.9	27	24	26	20	19	9.1	8.5	26	57	972	726
16	8.2	27	29	26	22	19	9.1	9.2	22	54	1260	304
17	10	28	30	22	24	19	9.1	7.2	19	54	3580	238
18	10	27	27	29	22	18	7.4	7.4	15	81	1930	206
19	12	31	27	32	22	19	7.4	6.3	17	64	585	195
20	19	27	26	32	22	21	7.4	6.2	15	105	302	155
21	19	26	22	30	22	22	6.0	7.2	15	100	238	134
22	23	28	26	30	22	30	6.0	4.5	13	67	204	110
23	24	28	25	32	22	30	6.1	6.7	10	51	184	102
24	25	28	21	28	22	28	10	6.0	5.3	52	179	89
25	26	32	18	32	24	30	7.7	6.0	51	48	168	73
26	27	31	27	34	24	30	6.0	6.5	12	226	146	67
27	28	30	29	33	24	26	5.8	4.7	70	434	312	60
28	28	29	25	33	23	21	4.9	.00	38	764	520	60
29	28	25	25	30	---	21	4.7	14	24	286	209	60
30	30	26	25	28	---	21	4.1	1940	17	142	109	60
31	30	---	24	30	---	19	---	2170	---	419	73	---
TOTAL	476.5	850	759	855	626	754	362.4	4403.50	1895.3	13895	25698	8031
MEAN	15.4	28.3	24.5	27.6	22.4	24.3	12.1	142	63.2	448	829	268
MAX	30	32	30	34	29	36	24	2170	341	7280	3580	1180
MIN	6.5	25	18	22	14	18	4.1	.00	5.3	10	73	32
AC-FT	945	1690	1510	1700	1240	1500	719	8730	3760	27560	50970	15930

CAL YR 1980 TOTAL 23524.10 MEAN 64.3 MAX 1080 MIN 6.5 AC-FT 46660
WTR YR 1981 TOTAL 58605.70 MEAN 161 MAX 7280 MIN .00 AC-FT 116200

07128500 PURGATOIRE RIVER NEAR LAS ANIMAS, CO

LOCATION.--Lat 38°02'02", long 103°12'00", in NE¼SW¼ sec.23, T.23 S., R.52 W., Bent County, Hydrologic Unit 11020010, on right bank at downstream side of bridge on State Highway 101, 2.3 mi (3.7 km) southeast of courthouse in Las Animas, and 4.5 mi (7.2 km) upstream from mouth.

DRAINAGE AREA.--3,503 mi^2 (9,073 km^2).

PERIOD OF RECORD.--May to September 1889, July to October 1909 (gage heights and discharge measurements only), January 1922 to September 1931, July 1948 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Purgatoire Creek at Las Animas in 1889 and as Purgatory River near Las Animas in 1909.

REVISED RECORDS.--WSP 1241: 1927(M).

GAGE.--Water-stage recorder. Datum of gage is 3,874.94 ft (1,181.082 m), National Geodetic Vertical Datum of 1929. See WSP 1731 for history of changes prior to Oct. 1, 1955. Oct. 1, 1955, to July 11, 1966, at datum 3.00 ft (0.914 m) higher. Supplementary water-stage recorder at site 1.6 mi (2.6 km) downstream at different datum July 12 to Nov. 17, 1966.

REMARKS.--Records good. Flow regulated to some extent since January 1975 by Trinidad Lake near Trinidad upstream. Diversions for irrigation of about 36,000 acres (150 km^2) above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--37 years (water years 1923-31, 1949-76), 116 ft^3/s (3.285 m^3/s) 84,040 acre-ft/yr (104 hm^3/yr), prior to completion of Trinidad Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,000 ft^3/s (1,980 m^3/s) May 20, 1955, gage height, 20.00 ft (6.096 m), present datum, from rating curve extended above 38,000 ft^3/s (1,100 m^3/s); no flow at times in 1924-25, 1927, 1949, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood since at least 1860 occurred Oct. 1, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,680 ft^3/s (189 m^3/s) at 0200 July 5, gage height, 10.09 ft (3.075 m), from rating curve extended above 4,500 ft^3/s (127 m^3/s); minimum daily, 2.2 ft^3/s (0.062 m^3/s) May 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	8.0	17	9.8	6.0	7.2	6.3	5.2	438	6.2	346	76
2	9.5	9.8	18	10	6.0	6.2	6.1	5.4	346	4.7	248	61
3	7.2	12	18	12	7.0	6.2	5.6	5.0	222	67	102	49
4	4.2	13	17	12	8.0	8.4	4.7	4.7	142	2190	109	40
5	4.6	10	16	11	8.0	10	4.4	4.3	100	3030	192	29
6	5.7	8.5	14	9.5	8.0	15	6.2	4.5	81	443	112	22
7	4.9	8.9	14	8.4	8.0	16	5.2	4.1	46	221	231	179
8	5.3	9.5	16	9.2	7.5	16	4.1	4.1	37	121	3280	812
9	5.4	19	17	8.9	7.0	17	3.7	4.1	27	72	498	287
10	5.8	18	13	8.8	7.0	15	4.6	3.3	18	44	188	394
11	5.7	8.6	20	8.4	6.0	13	4.1	2.9	16	41	778	430
12	5.2	8.7	18	8.4	6.0	12	4.4	2.2	12	36	3040	509
13	5.5	11	16	9.1	7.0	12	5.6	2.3	53	24	2300	555
14	6.0	9.9	15	9.1	7.5	23	5.2	3.9	73	15	1400	721
15	5.3	11	14	9.5	8.0	25	5.6	4.7	27	13	1080	721
16	7.5	11	16	9.3	8.0	38	6.5	5.7	14	36	939	401
17	9.0	11	14	8.4	7.0	25	5.4	4.1	13	24	1490	244
18	7.1	10	15	8.2	5.7	16	4.6	4.4	9.9	42	3610	197
19	6.0	8.1	14	9.7	5.7	9.4	6.3	4.2	9.9	88	884	168
20	12	10	10	9.9	5.7	8.0	6.1	4.6	9.8	70	430	161
21	13	11	9.3	9.6	6.2	9.8	10	4.2	9.1	57	304	133
22	13	12	9.8	8.0	6.2	10	7.2	5.8	8.4	59	247	110
23	9.3	15	17	10	5.7	10	5.6	5.2	7.7	32	208	82
24	12	13	15	13	7.2	9.9	4.5	4.5	7.2	12	175	74
25	8.3	10	11	8.6	6.7	9.4	4.4	4.4	7.2	6.1	155	66
26	14	17	9.2	7.7	7.2	9.3	5.3	3.7	7.2	63	130	54
27	25	12	11	7.3	5.2	8.3	5.6	3.7	7.5	269	138	46
28	21	14	17	8.4	6.7	11	5.8	4.0	11	504	492	42
29	13	24	15	8.4	---	9.7	5.9	4.3	18	293	235	35
30	19	19	12	8.0	---	13	5.6	4.1	9.1	162	145	37
31	13	---	11	7.0	---	6.8	---	1680	---	94	97	---
TOTAL	289.4	363.0	449.3	285.6	190.2	405.6	164.6	1807.6	1787.0	8139.0	23583	6735
MEAN	9.34	12.1	14.5	9.21	6.79	13.1	5.49	58.3	59.6	263	761	225
MAX	25	24	20	13	8.0	38	10	1680	438	3030	3610	812
MIN	4.2	8.0	9.2	7.0	5.2	6.2	3.7	2.2	7.2	4.7	97	22
AC-FT	574	720	891	566	377	805	326	3590	3540	16140	46780	13360

CAL YR 1980 TOTAL 21483.9 MEAN 58.7 MAX 1350 MIN 1.2 AC-FT 42610
WTR YR 1981 TOTAL 44199.3 MEAN 121 MAX 3610 MIN 2.2 AC-FT 87670

07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO

LOCATION.--Lat 38°04'05", long 102°56'13", in NE¼NW¼ sec.8, T.23 S., R.49 W., Bent County, Hydrologic Unit 11020009, at dam on Arkansas River at Caddoa, 3.2 mi (5.1 km) southeast of Hasty, and 58 mi (93 km) upstream from Colorado-Kansas State line.

DRAINAGE AREA.--18,915 mi² (48,990 km²), of which 785 mi² (2,033 km²) is probably noncontributing.

PERIOD OF RECORD.--January 1943 to current year. Monthend contents only prior to November 1943, published in WSP 1311.

GAGE.--Water-stage recorder for elevations above about 3,784 ft (1,153.4 m) and nonrecording gage read once daily for those below. Datum of gage is 3,760.00 ft (1,146.048 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Corps of Engineers); gage readings have been reduced to elevations NGVD.

REMARKS.--Records good. Reservoir is formed by concrete and earthfill dam. Storage began while dam was under construction prior to 1943, and record of contents began Jan. 1, 1943. Capacity (based on 1980 resurvey; new capacity table put into use Aug. 12, 1981), 701,800 acre-ft (865 hm³) at elevation 3,870.00 ft (1,179.576 m) top of spillway gates, of which 423,100 acre-ft (522 hm³) between elevations 3,774.12 ft (1,150.352 m), elevation of no contents, and 3,851.00 ft (1,173.785 m) is for irrigation, and 278,700 acre-ft (344 hm³) between elevations 3,851.00 ft (1,173.785 m) and 3,870.00 ft (1,179.576 m) is reserved for flood control. No dead storage. Figures given represent total contents.

COOPERATION.--Capacity tables furnished by U.S. Army, Corps of Engineers.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 429,600 acre-ft (530 hm³) Aug. 25, 1965, elevation, 3,856.16 ft (1,175.358 m); no contents at times many years.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 76,200 acre-ft (94.0 hm³) Apr. 12, elevation, 3,815.11 ft (1,162.846 m); minimum contents, 14,700 acre-ft (18.1 hm³) Aug. 7, elevation, 3,795.70 ft (1,156.929 m).

Capacity table (elevation, in feet, and contents, in acre-feet)

3,785.0	448	3,800.0	21,800	3,830.0	153,700
3,790.0	3,380	3,810.0	52,300	3,840.0	232,900
3,795.0	11,100	3,820.0	94,400	3,850.0	333,800

CONTENTS, IN ACRE FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45600	35500	41900	53200	63500	70100	75800	57800	42900	35300	15300	29500
2	45200	35500	42200	53600	63800	70500	75800	56800	42900	34900	15300	27600
3	44900	35600	42800	54100	63900	71000	75800	55900	42900	34600	15100	26100
4	44400	35700	43200	54600	64100	71200	75600	54900	42800	36000	14800	25500
5	44000	35900	43700	54900	64400	71400	75800	53800	42600	42100	15000	24800
6	43500	36000	44100	55200	64800	71900	75900	52600	42600	42900	15000	24300
7	43000	36100	44600	55600	65000	72100	75900	51800	42500	42600	14700	23700
8	42500	36100	44800	56000	65400	72400	76000	51100	42300	42000	18500	23800
9	41800	36200	45300	56400	65700	72700	76000	50200	42200	41100	20300	24300
10	41400	36400	45700	56600	65900	72900	76100	49200	42000	40200	20300	24200
11	40800	36500	46100	57100	65900	73200	76200	48500	42000	39300	20500	24200
12	40300	36600	46400	57400	66000	73400	76200	47500	41900	39100	24300	24400
13	39700	36700	46800	57800	66300	73600	75800	46800	42000	38800	28900	24800
14	39200	36800	47100	58200	66500	74000	74800	45900	42000	38500	31600	25200
15	38700	37000	47500	58500	67000	74100	73900	45300	41900	38100	32900	25300
16	38200	37100	47800	58800	67100	74300	72900	44800	41600	37000	34500	24900
17	37700	37300	48300	59100	67500	74600	72000	44200	41000	35000	36400	24100
18	37200	37600	48600	59200	67800	74600	71000	43400	40500	33100	41700	23700
19	36800	37800	48800	59800	68000	74700	69900	42700	40500	31200	43400	23400
20	36200	37900	49200	60100	68400	74800	69000	42000	40400	29400	43100	23000
21	35800	35900	49500	60300	68500	75000	68000	41500	40100	27700	42400	22700
22	35400	38300	49900	60800	68600	75000	67100	41400	39800	26500	41500	22400
23	35200	36400	50300	61000	68800	75100	66000	41300	39300	24900	40500	21900
24	35100	38600	50500	61400	69100	75200	65000	41200	38800	23300	39400	21500
25	34900	39100	50900	61600	69400	75300	63900	41100	38300	21900	38200	20900
26	34900	39400	51200	61900	69700	75400	62900	40900	37700	20600	37000	20200
27	34800	39800	51600	62200	69800	75500	61800	40700	37100	19300	35700	19400
28	34900	40500	52000	62400	69900	75800	60900	40500	36500	18000	35000	18700
29	35100	40900	52100	62600	---	75600	59900	40400	36000	16900	34000	18100
30	35200	41500	52600	62800	---	75700	58800	40300	35600	16000	32900	17600
31	35400	---	52900	63400	---	75800	---	42100	---	15700	31300	---
MAX	45600	41500	52900	63400	69900	75800	76200	57800	42900	42900	43400	29500
MIN	34800	35500	41900	53200	63500	70100	58800	40300	35600	15700	14700	17600

WTR YR 1981 MAX 76200 MIN 14700

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO

LOCATION.--Lat 38°03'59", long 102°55'55", in NW¼NE¼ sec.8, T.23 S., R.49 W., Bent County, Hydrologic Unit 11020009, on right bank 0.2 mi (0.3 km) downstream from John Martin Dam, 2.6 mi (4.2 km) upstream from Caddoa Creek, and 3.5 mi (5.6 km) southeast of Hasty.

DRAINAGE AREA.--18,915 mi² (48,990 km²), of which 785 mi² (2,033 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1938 to current year. Published as "at Caddoa" prior to October 1947.

REVISED RECORDS.--WSP 1241: 1942(M). WSP 1341: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3,737.40 ft (1,139.160 m), National Geodetic Vertical Datum of 1929. Prior to Feb. 22, 1940, at site 3 mi (5 km) upstream at datum 22.83 ft (6.959 m) higher. Feb. 22, 1940, to Feb. 4, 1943, at site 700 ft (210 m) upstream at datum 3.64 ft (1.109 m) higher. Feb. 5, 1943, to Apr. 8, 1975, at site 1.5 mi (2.4 km) downstream at datum approximately 27.5 ft (8.38 m) lower.

REMARKS.--Records good. Storage diversions above station for irrigation of about 438,000 acres (1,770 km²) and for flood control. Flow completely regulated by John Martin Dam (station 07130000) 0.2 mi (0.3 km) upstream since Oct. 1948.

AVERAGE DISCHARGE.--5 years (water years 1939-43), 628 ft³/s (17.78 m³/s), unadjusted, 455,000 acre-ft/yr (561 hm³/yr) during construction of John Martin Dam; 33 years (water years 1949-81), 217 ft³/s (6.145 m³/s), 157,200 acre-ft/yr (194 hm³/yr), adjusted for storage in John Martin Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft³/s (1,130 m³/s) Apr. 24, 1942, gage height, 10.46 ft (3.188 m), site and datum then in use, from rating curve extended above 12,000 ft³/s (340 m³/s) on basis of flow-over-dam and critical-depth measurement of peak flow; no flow at times in 1945-47; minimum daily prior to construction of John Martin Reservoir, 5 ft³/s (0.14 m³/s) July 16, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,320 ft³/s (37.4 m³/s) at 1700 July 28, gage height, 4.16 ft (1.268 m); minimum daily, 1.2 ft³/s (0.03 m³/s) Mar. 15-22, 25-29, Apr. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	273	30	1.6	1.5	1.4	1.4	6.7	490	265	211	435	1020
2	289	30	1.6	1.5	1.4	1.3	5.0	487	212	189	388	1010
3	305	29	1.6	1.5	1.4	1.3	1.2	484	266	177	276	1010
4	305	26	1.6	1.5	1.4	1.3	1.3	487	292	169	274	812
5	305	18	1.6	1.5	1.4	1.3	1.4	506	344	176	366	388
6	341	11	1.6	1.5	1.4	1.3	4.3	510	351	266	260	389
7	341	10	1.6	1.5	1.4	1.3	4.4	453	284	439	305	356
8	321	11	1.6	1.5	1.4	1.3	4.1	408	267	442	407	348
9	321	11	1.6	1.5	1.4	1.3	4.0	409	274	442	646	352
10	321	11	1.6	1.5	1.4	1.3	3.2	413	406	452	669	351
11	305	9.8	1.6	1.5	1.4	1.3	2.2	413	493	452	626	406
12	293	8.8	1.6	1.5	1.4	1.3	2.3	411	458	175	625	477
13	289	7.3	1.6	1.5	1.4	1.3	267	376	451	157	417	494
14	273	7.8	1.6	1.5	1.4	1.3	460	359	459	162	404	651
15	265	7.8	1.5	1.5	1.4	1.2	488	362	464	161	403	807
16	265	7.8	1.5	1.5	1.4	1.2	503	364	470	540	404	844
17	273	7.3	1.5	1.5	1.4	1.2	515	367	469	929	402	755
18	285	6.3	1.5	1.5	1.4	1.2	510	363	417	912	606	443
19	269	6.3	1.5	1.5	1.4	1.2	497	336	242	910	867	369
20	261	6.3	1.5	1.5	1.4	1.2	506	334	190	866	819	367
21	265	5.8	1.5	1.5	1.4	1.2	502	273	189	851	805	371
22	253	5.8	1.5	1.5	1.4	1.2	494	69	218	885	803	375
23	200	5.8	1.5	1.5	1.4	4.6	500	72	249	888	801	382
24	155	5.8	1.5	1.5	1.4	14	502	73	273	843	777	377
25	146	4.0	1.5	1.5	1.4	1.2	507	71	275	787	792	395
26	146	1.6	1.5	1.5	1.4	1.2	511	79	272	773	802	424
27	112	1.6	1.5	1.5	1.4	1.2	488	88	271	966	803	425
28	109	1.6	1.5	1.5	1.4	1.2	472	117	268	1120	807	426
29	61	1.6	1.5	1.5	---	1.2	477	127	253	1030	804	412
30	31	1.6	1.5	1.5	---	6.1	487	114	244	780	799	290
31	20	---	1.5	1.5	---	2.6	---	268	---	331	962	---
TOTAL	7398	297.7	47.9	46.5	39.2	61.2	8726.1	9683	9586	17481	18554	15526
MEAN	239	9.92	1.55	1.50	1.40	1.97	291	312	320	564	599	518
MAX	341	30	1.6	1.5	1.4	14	515	510	493	1120	962	1020
MIN	20	1.6	1.5	1.5	1.4	1.2	1.2	69	189	157	260	290
AC-FT	14670	590	95	92	78	121	17310	19210	19010	34670	36800	30800

CAL YR 1980 TOTAL 131206.53 MEAN 358 MAX 1540 MIN .36 AC-FT 260200
WTR YR 1981 TOTAL 87446.60 MEAN 240 MAX 1120 MIN 1.2 AC-FT 173500

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued
(Irrigation Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1942 to August 1943, October 1945 to July 1949, January 1951 to September 1981 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1951 to September 1981 (discontinued).
WATER TEMPERATURES: January 1951 to September 1981 (discontinued).

REMARKS.--Measurements of specific conductance and water temperature are taken by personnel of U.S. Army, Corps of Engineers.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 5,180 micromhos Apr. 21, 1955; minimum daily, 476 micromhos June 18, 1965.
WATER TEMPERATURES: Maximum daily, 29.0°C Aug. 6, 1951; minimum, freezing point on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Not determined.
WATER TEMPERATURES: Not determined.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
MAR 27...	1245	1.2	2850	2750	7.7	12.0	9.5	1200	280	120	250	3.2
JUL 01...	1300	208	--	2420	7.8	23.0	8.4	960	220	100	230	3.2
SEP 10...	1600	365	1400	1400	--	21.0	--	560	140	51	100	2.0
30...	1000	293	1400	1430	8.3	20.0	10.0	510	120	50	100	2.1

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
MAR 27...	6.9	320	1300	77	1.0	11	2240	3.0	7.2	.41	.44
JUL 01...	7.7	130	1200	82	.9	1.3	1920	2.6	1080	.25	.23
SEP 10...	6.9	120	620	20	.6	9.3	1020	1.3	1010	.25	.27
30...	5.7	120	600	22	.7	9.3	981	1.3	776	--	.26

DATE	NITRO-GEN DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM DIS-SOLVED (UG/L AS CD)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
MAR 27...	1.6	1.30	1.2	1.7	.060	.040	1	1	1	0	2
JUL 01...	1.2	1.40	.96	1.7	.060	.030	1	1	1	0	7
SEP 10...	1.0	1.00	.74	1.3	.050	.010	2	1	8	0	9
30...	--	--	--	--	--	.010	2	2	2	0	9

DATE	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR 27...	0	5	3	0	7	.1	.0	5	5	90	100
JUL 01...	0	8	2	16	5	.1	.0	8	8	10	20
SEP 10...	1	6	4	14	2	.0	.0	6	6	--	66
30...	0	6	2	2	2	.1	.0	5	5	20	7

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	---					---	15.0	18.0	23.0	---	21.0
2	17.0	---					---	---	18.0	23.0	---	21.0
3	16.0	9.0					---	---	19.0	---	25.0	21.0
4	---	8.0					---	17.0	19.0	---	26.0	21.0
5	---	---					---	17.0	19.0	---	26.0	---
6	16.0	---					---	16.0	---	24.0	26.0	---
7	16.0	---					---	16.0	---	24.0	25.0	---
8	16.0	---					---	16.0	20.0	24.0	---	20.0
9	16.0	---					---	---	21.0	23.0	---	20.0
10	16.0	---					---	---	21.0	23.0	22.0	21.0
11	---	---					---	14.0	22.0	---	22.0	21.0
12	---	---					---	15.0	23.0	---	24.0	---
13	---	---					---	14.0	---	24.0	22.0	---
14	---	---					10.0	14.0	---	24.0	22.0	20.0
15	15.0	---					11.0	15.0	21.0	24.0	---	20.0
16	15.0	---					12.0	---	21.0	24.0	---	20.0
17	14.0	---					12.0	---	21.0	24.0	21.0	19.0
18	---	---					---	14.0	21.0	---	21.0	18.0
19	---	---					---	14.0	21.0	---	23.0	---
20	13.0	---					13.0	14.0	---	25.0	22.0	---
21	13.0	---					13.0	15.0	---	24.0	22.0	18.0
22	12.0	---					13.0	14.0	21.0	25.0	---	18.0
23	12.0	---					13.0	---	22.0	25.0	---	18.0
24	11.0	---					14.0	---	23.0	24.0	22.0	19.0
25	---	---					---	---	22.0	---	22.0	19.0
26	---	---					---	17.0	23.0	---	22.0	---
27	12.0	---					14.0	17.0	---	24.0	22.0	---
28	9.0	---					15.0	18.0	---	24.0	22.0	18.0
29	8.0	---					15.0	17.0	22.0	24.0	---	19.0
30	9.0	---					15.0	---	23.0	24.0	---	19.0
31	9.0	---					---	---	---	24.0	23.0	---

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1600	---					---	2500	2600	2600	---	1300
2	1700	---					---	---	2600	2600	---	1400
3	1700	1950					---	---	2800	---	2200	1400
4	---	1850					---	2400	2800	---	2500	1300
5	---	---					---	2700	2800	---	2200	---
6	1650	---					---	2800	---	2200	2200	---
7	1500	---					---	2600	---	2400	2000	---
8	1600	---					---	2600	2900	2700	---	1400
9	1600	---					---	---	2700	2600	---	1500
10	1700	---					---	---	2800	2500	2050	1480
11	---	---					---	2700	2900	---	2100	1400
12	---	---					---	2700	2500	---	2050	---
13	---	---					---	2600	---	2600	1600	---
14	---	---					2500	2600	---	2600	1600	1500
15	1700	---					2500	2700	2400	2600	---	1550
16	1700	---					2600	---	2500	2600	---	1400
17	1600	---					2600	---	2500	2600	1500	1500
18	---	---					---	2700	2600	---	1500	1400
19	---	---					---	2700	2800	---	1400	---
20	1800	---					2600	2700	---	2600	1350	---
21	2090	---					2600	2500	---	2600	1270	1400
22	1900	---					2600	2700	2800	2600	---	1450
23	1800	---					2600	---	2600	2600	---	1400
24	1700	---					2500	---	2600	2400	1270	1500
25	---	---					---	---	2600	---	1250	1500
26	---	---					---	2600	2600	---	1200	---
27	1700	---					2600	2800	---	2600	1100	---
28	1850	---					2500	2800	---	2600	1250	1500
29	1850	---					2500	2600	2600	2600	---	1400
30	1750	---					2620	---	2500	2600	---	1450
31	1850	---					---	---	---	2600	1300	---

07133000 ARKANSAS RIVER AT LAMAR, CO

LOCATION.--Lat 38°06'21", long 102°37'05", in NE¼SE¼ sec.30, T.22 S., R.46 W., Prowers County, Hydrologic Unit 11020009, on left bank at downstream side of bridge on U.S. Highways 50 and 287, and 1.3 mi (2.1 km) north of courthouse in Lamar.

DRAINAGE AREA.--19,780 mi^2 (51,230 km^2), of which 950 mi^2 (2,460 km^2) is probably noncontributing.

PERIOD OF RECORD.--May 1913 to September 1955, April 1959 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: 1921(M), 1945-46(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,602.23 ft (1,097.960 m), National Geodetic Vertical Datum of 1929. See WSP 1731 for history of changes prior to Apr. 4, 1959. Apr. 4, 1959, to Mar. 26, 1968, at site 450 ft (140 m) upstream at datum 2.42 ft (0.738 m) lower.

REMARKS.--Records good. Flow regulated by John Martin Dam (station 07130000) 21 mi (34 km) upstream since Oct. 1948. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 487,000 acres (1,970 km^2), and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--30 years (water years 1914-43), 298 ft^3/s (8.439 m^3/s), 215,900 acre-ft/yr (266 hm^3/yr), prior to and during construction of John Martin Dam, 29 years (water years 1949-55, 1960-81), 88.5 ft^3/s (2.506 m^3/s), unadjusted, 64,120 acre-ft/yr (79.1 hm^3/yr), subsequent to completion of John Martin Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 130,000 ft^3/s (3,680 m^3/s) June 5, 1921, gage height, 14.55 ft (4.435 m), present datum, from rating curve extended above 10,000 ft^3/s (280 m^3/s); maximum gage height, 16.48 ft (5.023 m) June 18, 1965, present datum, from floodmarks; no flow at times in 1913-15, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,130 ft^3/s (32.0 m^3/s) at 2245 Aug. 3, gage height, 4.77 ft (1.454 m); minimum daily, 6.5 ft^3/s (0.18 m^3/s) May 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	28	25	20	18	13	10	38	27	110	38	682
2	38	28	27	21	17	13	9.9	31	25	95	28	664
3	38	29	26	20	17	15	10	20	27	84	245	644
4	40	29	28	19	19	22	10	23	43	80	267	204
5	43	28	27	20	20	18	11	28	30	125	62	102
6	43	28	24	21	22	15	11	44	26	76	61	84
7	47	28	24	22	20	17	11	59	37	52	44	56
8	49	29	25	20	19	17	11	28	30	35	40	48
9	49	30	25	20	16	14	12	18	33	56	59	46
10	46	30	24	20	15	14	12	15	35	57	55	39
11	44	28	24	20	17	13	12	20	80	51	53	34
12	40	30	24	18	19	13	13	19	76	58	52	22
13	40	29	23	18	20	13	12	19	70	48	47	11
14	38	27	24	19	20	13	48	18	68	28	39	16
15	38	27	24	17	20	13	10	15	78	26	31	59
16	38	26	25	17	19	12	33	23	103	33	37	101
17	36	26	24	19	18	13	50	23	91	637	51	104
18	36	33	23	19	18	12	57	15	87	680	45	62
19	36	32	22	20	17	12	52	9.8	87	810	619	30
20	36	27	21	20	17	12	90	9.5	84	802	671	25
21	38	25	20	19	14	15	52	7.3	69	742	657	13
22	38	23	20	21	14	16	38	17	64	749	661	11
23	34	23	24	20	14	13	35	18	81	745	661	12
24	34	29	20	20	14	13	35	18	88	744	663	12
25	53	25	22	22	14	16	31	46	125	720	670	11
26	42	28	25	20	14	19	36	20	114	720	662	46
27	36	29	23	15	13	15	39	6.5	107	743	662	67
28	35	28	23	19	13	13	24	11	112	723	680	70
29	36	29	23	21	---	13	26	132	115	723	688	68
30	30	27	21	20	---	14	34	123	118	708	686	61
31	28	---	22	20	---	9.8	---	32	---	235	693	---
TOTAL	1217	838	732	607	478	440.8	834.9	906.1	2130	11495	9927	3404
MEAN	39.3	27.9	23.6	19.6	17.1	14.2	27.8	29.2	71.0	371	320	113
MAX	53	33	28	22	22	22	90	132	125	810	693	682
MIN	28	23	20	15	13	9.8	9.9	6.5	25	26	28	11
AC-FT	2410	1660	1450	1200	948	874	1660	1800	4220	22800	19690	6750

CAL YR 1980 TOTAL 69179.9 MEAN 189 MAX 1000 MIN 7.4 AC-FT 137200
WTR YR 1981 TOTAL 33009.8 MEAN 90.4 MAX 810 MIN 6.5 AC-FT 65470

07134100 BIG SANDY CREEK NEAR LAMAR, CO

LOCATION.--Lat 38°06'51", long 102°29'00", in SW¼SW¼ sec.21, T.22 S., R.45 W., Prowers County, Hydrologic Unit 11020009, on left bank 15 ft (5 m) upstream from State Highway 196, 950 ft (290 m) upstream from mouth, and 7.5 mi (12.1 km) east of Lamar.

DRAINAGE AREA.--3,248 mi² (8,412 km²).

PERIOD OF RECORD.--February 1968 to current year.

REVISED RECORDS.--WRD Colo. 1971: Drainage area.

GAGE.--Water-stage recorder and culvert control. Altitude of gage is 3,545 ft (1,080 m), from topographic map. Prior to June 30, 1977, at datum 1.00 ft (0.305 m) lower.

REMARKS.--Records good. Natural flow of stream affected by diversions above station for irrigation and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--13 years, 11.6 ft³/s (0.329 m³/s), 8,400 acre-ft/yr (10.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,520 ft³/s (71.4 m³/s) Sept. 16, 1976, gage height, 8.48 ft (2.585 m), on basis of measurement of peak flow through culvert and over road; no flow Aug. 13-18, Sept. 1-15, 1976, Sept. 14-30, 1977, many days 1978, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 21, 1965, reached a stage of 9.93 ft (3.027 m) from floodmarks, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 43 ft³/s (1.22 m³/s) at 1715 May 18, gage height, 2.09 ft (0.637 m); minimum daily, 0.01 ft³/s (0.001 m³/s) July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	6.6	25	20	12	6.6	7.1	3.9	8.3	1.2	1.4	2.2
2	5.5	6.6	22	19	13	6.9	6.6	3.9	7.7	1.9	.80	2.4
3	4.3	6.6	20	18	15	9.2	6.6	3.9	5.5	2.2	.08	2.1
4	4.2	6.6	25	18	14	12	6.3	4.2	4.9	1.6	.94	2.0
5	3.6	6.7	25	18	18	12	5.8	3.4	4.5	1.1	.21	2.0
6	4.3	7.2	25	18	16	10	5.5	5.0	4.4	.24	.02	1.9
7	5.9	7.8	24	18	17	8.9	4.6	7.7	3.8	.17	1.6	1.4
8	6.9	7.4	22	16	18	9.0	4.6	4.9	2.7	.17	2.6	1.2
9	6.9	6.3	22	15	13	12	4.9	4.6	2.4	.04	2.3	1.3
10	6.9	6.0	21	16	13	12	5.0	5.2	2.4	.04	2.7	1.4
11	7.2	6.0	24	16	13	9.7	4.6	5.6	2.2	.10	2.7	1.4
12	7.2	6.3	25	17	13	9.2	4.3	6.2	3.1	.15	4.6	1.7
13	7.2	8.1	24	18	16	9.0	4.2	8.6	3.1	.19	4.5	1.1
14	7.3	12	23	19	18	9.0	4.9	6.3	4.4	.42	3.0	1.2
15	7.6	12	22	18	19	9.0	5.8	6.6	5.4	1.1	3.8	2.2
16	6.6	15	22	18	18	9.0	5.0	9.0	4.3	2.1	4.7	3.4
17	6.1	16	22	14	16	9.8	4.1	8.9	3.0	1.6	4.4	4.4
18	5.1	14	22	15	16	10	4.8	12	2.7	1.7	4.4	4.9
19	5.2	13	22	18	14	12	4.9	12	3.0	2.6	4.4	4.2
20	7.3	13	17	17	12	11	5.1	9.8	2.8	1.1	3.9	4.0
21	4.7	14	16	15	12	10	5.3	9.4	2.1	.01	3.4	1.9
22	4.3	15	23	13	10	11	5.0	9.0	.96	.48	3.1	1.1
23	5.5	17	25	14	12	13	4.7	8.1	.67	.29	3.1	.95
24	5.2	19	20	14	12	13	4.8	8.0	.07	.05	3.0	.95
25	5.3	20	19	12	9.9	11	4.8	7.4	.02	.02	3.0	.95
26	5.6	17	20	10	8.2	7.6	4.9	5.9	.04	.17	2.8	.95
27	6.2	20	25	9.8	7.3	6.5	5.3	4.0	.23	.20	2.2	1.0
28	6.1	26	22	9.8	6.8	6.0	4.6	3.4	.59	.59	2.4	1.3
29	5.7	26	21	9.4	---	5.9	4.5	4.3	.95	.33	2.1	1.2
30	5.8	27	20	9.4	---	6.1	4.5	16	.89	.46	1.8	1.2
31	6.8	---	20	10	---	7.3	---	8.7	---	1.2	1.9	---
TOTAL	184.0	384.2	685	472.4	382.2	293.7	153.1	215.9	87.12	23.52	81.85	57.90
MEAN	5.94	12.8	22.1	15.2	13.7	9.47	5.10	6.96	2.90	.76	2.64	1.93
MAX	7.6	27	25	20	19	13	7.1	16	8.3	2.6	4.7	4.9
MIN	3.6	6.0	16	9.4	6.8	5.9	4.1	3.4	.02	.01	.02	.95
AC-FT	365	762	1360	937	758	583	304	428	173	47	162	115

CAL YR 1980 TOTAL 5054.60 MEAN 13.8 MAX 237 MIN 1.3 AC-FT 10030
WTR YR 1981 TOTAL 3020.89 MEAN 8.28 MAX 27 MIN .01 AC-FT 5990

07134180 ARKANSAS RIVER NEAR GRANADA, CO

LOCATION.--Lat 38°05'44", long 102°18'37", in SE¼NE¼ sec.36, T.22 S., R.44 W., Prowers County, Hydrologic Unit 11020009, on left bank at upstream side end of bridge on U.S. Highway 385, 1.2 mi (1.9 km) downstream from headgate of Buffalo Canal and 2.3 mi (3.7 km) north of Granada.

DRAINAGE AREA.--23,707 mi² (61,401 km²).

PERIOD OF RECORD.--January 1899 to December 1901, gage heights only at different site and datum, August to October 1903, December 1980 to September 1981.

GAGE.--Water-stage recorder. Altitude of gage is 3,480 ft (1,061 m), from topographic map.

REMARKS.--Records good. Flow regulated by John Martin Dam (station 07130000) 38 mi (61 km) upstream since October 1948. Natural flow of stream affected by transmountain diversion, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 500,000 acres (2,024 km²), and return flow from irrigated areas. Several observation of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period Dec. 5, 1980, to Sept. 30, 1981, 700 ft³/s (19.8 m³/s) at 0730 July 20, gage height, 7.90 ft (2.408 m); minimum daily, 4.0 ft³/s (0.11 m³/s) Apr. 9, 10, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	65	49	43	30	7.9	15	25	190	516
2			---	65	46	43	31	8.8	10	27	105	505
3			---	65	53	45	13	7.7	6.0	33	85	495
4			---	65	61	50	4.8	7.4	7.0	14	248	372
5			69	66	60	27	5.0	8.7	8.9	22	120	177
6			67	66	61	9.9	4.3	7.9	7.7	11	62	126
7			66	64	63	33	4.3	12	7.9	7.1	49	91
8			66	63	62	39	4.1	14	8.8	5.0	32	61
9			66	62	65	40	4.0	8.6	8.5	5.1	23	47
10			64	62	47	41	4.0	6.5	8.5	5.1	23	38
11			65	62	50	39	4.2	6.1	10	5.2	21	30
12			72	60	62	34	4.2	5.7	18	5.0	23	40
13			73	60	66	32	4.2	6.0	17	4.7	23	44
14			69	61	68	31	4.3	5.9	12	5.9	12	20
15			67	63	71	30	9.0	5.5	11	7.1	11	14
16			67	66	69	30	4.7	5.2	12	7.0	44	16
17			67	63	68	30	4.0	5.7	7.6	134	20	30
18			67	63	65	30	4.9	7.0	6.9	429	16	31
19			66	66	60	29	7.2	7.2	7.0	485	138	15
20			60	66	57	28	7.1	5.7	8.4	611	421	9.0
21			60	62	55	31	9.0	5.0	6.5	516	441	6.6
22			63	61	52	30	17	4.7	5.2	511	454	5.8
23			71	61	51	31	12	4.6	5.1	516	472	5.9
24			68	61	52	31	7.7	4.8	5.1	516	488	5.8
25			62	59	49	31	6.5	4.6	5.9	506	489	5.7
26			63	57	46	32	6.0	10	7.1	509	495	5.1
27			69	56	45	33	6.1	7.0	5.7	529	504	5.6
28			70	56	42	33	6.6	5.0	9.0	536	509	8.7
29			67	55	---	35	6.9	12	14	518	514	12
30			65	53	---	32	7.9	40	20	513	513	14
31			65	51	---	30	---	30	---	421	508	---
TOTAL			---	1905	1595	1032.9	244.0	277.2	281.8	7439.2	7053	2752.2
MEAN			---	61.5	57.0	33.3	8.13	8.94	9.39	240	228	91.7
MAX			---	66	71	50	31	40	20	611	514	516
MIN			---	51	42	9.9	4.0	4.6	5.1	4.7	11	5.1
AC-FT			---	3780	3160	2050	484	550	559	14760	13990	5460

07137000 FRONTIER DITCH NEAR COOLIDGE, KS

LOCATION.--Lat 38°02'18", long 102°02'19", in NE¼ sec.21, T.23 S., R.43 W., Hamilton County, Kans., Hydrologic Unit 11030001, on left bank 0.3 mi (0.5 km) east of Colorado-Kansas State line, 0.5 mi (0.8 km) downstream from Holly drain diversion, 1.5 mi (2.4 km) west of Coolidge, and 2.3 mi (3.7 km) downstream from diversion from Arkansas River.

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1731: 1951.

GAGE.--Water-stage recorders and Parshall flume. Datum of gage is 3,353.14 ft (1,022.037 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. This ditch diverts water from Arkansas River in Colorado for use in Kansas. These records and records for Arkansas River near Coolidge (station 07137500) represent total flow of Arkansas River at the Colorado-Kansas State line.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 84 ft³/s (2.38 m³/s) Aug. 1, 1975; no flow for many days each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	.00	.00	.00	.00	.00	35	24	20	23	27	21
2	12	.00	.00	.00	.00	.00	35	26	5.2	26	29	21
3	8.2	.00	.00	.00	.00	.00	29	32	6.2	25	28	21
4	5.8	.00	.00	.00	.00	.00	19	36	3.9	22	34	20
5	5.2	.00	.00	.00	.00	.00	25	26	3.9	20	43	23
6	5.6	.00	.00	.00	.00	.00	22	26	8.6	20	42	30
7	6.3	.00	.00	.00	.00	.00	20	48	16	18	42	32
8	7.7	.00	.00	.00	.00	.00	18	33	18	19	44	33
9	8.7	.00	.00	.00	.00	.00	17	30	16	23	41	28
10	8.7	.00	.00	.00	.00	.00	17	28	11	26	39	25
11	9.8	.00	.00	.00	.00	.00	16	26	8.7	25	39	21
12	10	.00	.00	.00	.00	.00	16	21	15	24	38	18
13	12	.00	.00	.00	.00	.00	17	19	46	24	38	23
14	9.2	.00	.00	.00	.00	.00	16	18	44	28	37	30
15	7.4	.00	.00	.00	.00	.00	18	20	41	27	33	37
16	9.8	.00	.00	.00	.00	.00	22	22	44	27	42	42
17	7.4	.00	.00	.00	.00	.00	17	25	36	24	21	40
18	6.2	.00	.00	.00	.00	.00	17	24	28	38	18	42
19	8.0	.00	.00	.00	.00	.00	26	22	27	34	29	40
20	14	.00	.00	.00	.00	.00	23	20	24	34	49	30
21	10	.00	.00	.00	.00	.00	25	18	25	33	40	27
22	5.2	.00	.00	.00	.00	.00	25	17	26	32	32	26
23	11	.00	.00	.00	.00	.00	31	13	25	31	24	32
24	13	.00	.00	.00	.00	.00	32	12	21	28	28	35
25	.70	.00	.00	.00	.00	.00	30	10	22	29	35	32
26	.42	.00	.00	.00	.00	.00	28	10	26	31	35	29
27	.14	.00	.00	.00	.00	.00	29	11	25	32	34	29
28	.00	.00	.00	.00	.00	11	28	10	23	29	32	32
29	.00	.00	.00	.00	---	36	26	11	29	29	27	34
30	.00	.00	.00	.00	---	36	23	35	48	30	24	32
31	.00	---	.00	.00	---	35	---	25	---	30	19	---
TOTAL	214.46	.00	.00	.00	.00	118.00	702	698	692.5	841	1043	885
MEAN	6.92	.000	.000	.000	.000	3.81	23.4	22.5	23.1	27.1	33.6	29.5
MAX	14	.00	.00	.00	.00	36	35	48	48	38	49	42
MIN	.00	.00	.00	.00	.00	.00	16	10	3.9	18	18	18
AC-FT	425	.00	.00	.00	.00	234	1390	1380	1370	1670	2070	1760

CAL YR 1980 TOTAL 4946.16 MEAN 13.5 MAX 69 MIN .00 AC-FT 9810
WTR YR 1981 TOTAL 5193.96 MEAN 14.2 MAX 49 MIN .00 AC-FT 10300

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS

LOCATION.--Lat 38°01'34", long 102°00'41", in NE¼NW¼ sec.26, T.23 S., R.43 W., Hamilton County, KS, Hydrologic Unit 11030001, on right bank at downstream side of bridge, 1.0 mi (1.6 km) south of Coolidge, and 1.9 mi (3.1 km) downstream from Colorado-Kansas State line.

DRAINAGE AREA.--25,410 mi^2 (65,812 km^2), of which 1,708 mi^2 (4,424 km^2) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to Ocober 1903, March to May 1921, October 1950 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: 1903, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,330.84 ft (1,015.240 m), National Geodetic Vertical Datum of 1929. May 5 to Oct. 31, 1903, nonrecording gage, and Mar. 1 to May 31, 1921, water-stage recorder at present site at different datums. Oct. 1, 1950, to Mar. 31, 1966, water-stage recorder at site 0.3 mi (0.5 km) upstream at datum 3.00 ft (0.914 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Combined flow of river and Frontier ditch (station 07137000) represents entire flow that enters Kansas. Flow regulated by John Martin Reservoir (station 07130000) since Oct. 1948. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 500,000 acres (2,020 km^2), and return flow from irrigated areas.

AVERAGE DISCHARGE.--31 years (water years 1951-81), 179 ft^3/s (5.069 m^3/s), 129,700 acre-ft/yr (160 hm^3/yr), subsequent to completion of John Martin Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 158,000 ft^3/s (4,470 m^3/s) June 17, 1965, gage height, 14.8 ft (4.51 m), present site and datum, from floodmarks, from rating curve extended above 13,000 ft^3/s (370 m^3/s), on basis of slope-area measurement of peak flow; no flow for many days in 1903, 1954, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 623 ft^3/s (17.6 m^3/s) July 27, gage height, 4.23 ft (1.289 m); minimum daily, 5.4 ft^3/s (0.15 m^3/s) June 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	45	79	73	49	53	12	11	79	46	258	477
2	25	44	76	74	46	53	11	11	74	46	177	480
3	27	40	81	72	45	53	11	9.1	66	43	129	477
4	26	39	81	72	43	53	15	8.4	56	36	122	470
5	23	37	82	73	41	53	14	7.7	52	30	147	267
6	20	35	81	73	39	62	13	8.1	46	27	95	170
7	19	40	75	71	37	62	12	51	36	23	70	128
8	24	38	69	71	36	62	9.8	35	35	25	48	103
9	29	35	64	69	34	63	7.7	33	36	21	41	90
10	30	38	63	66	32	66	9.8	30	34	16	37	74
11	28	37	63	65	35	66	9.8	29	35	14	36	67
12	28	34	63	65	37	64	9.1	24	32	12	44	58
13	37	32	66	67	51	58	8.4	25	22	13	43	63
14	40	35	66	66	74	54	7.7	24	21	7.7	42	56
15	39	38	65	66	86	53	9.1	26	17	8.4	52	41
16	43	39	65	65	81	51	11	28	12	11	99	35
17	41	39	67	64	80	53	11	34	11	9.1	102	32
18	44	43	69	63	74	51	9.1	34	12	82	78	41
19	35	44	67	65	72	50	13	40	11	226	49	44
20	28	44	67	64	70	52	15	41	9.1	350	143	41
21	33	46	75	62	63	56	13	39	16	401	270	33
22	35	51	76	62	60	54	9.8	33	9.1	377	316	30
23	28	51	77	60	58	48	9.8	31	5.9	387	364	21
24	60	50	78	61	59	50	9.1	27	6.5	394	397	11
25	59	61	77	59	59	48	9.1	24	14	394	404	8.4
26	48	52	77	56	57	47	9.1	23	9.1	398	411	8.4
27	48	58	76	55	54	50	11	27	9.8	491	422	7.1
28	44	71	78	54	53	45	11	30	5.4	432	447	8.4
29	43	73	74	55	---	21	9.1	28	8.7	429	469	13
30	44	77	74	53	---	15	9.1	90	87	415	465	14
31	44	---	73	51	---	14	---	89	---	412	469	---
TOTAL	1093	1366	2244	1992	1525	1580	318.6	950.3	867.6	5576.2	6246	3368.3
MEAN	35.3	45.5	72.4	64.3	54.5	51.0	10.6	30.7	28.9	180	201	112
MAX	60	77	82	74	86	66	15	90	87	491	469	480
MIN	19	32	63	51	32	14	7.7	7.7	5.4	7.7	36	7.1
AC-FT	2170	2710	4450	3950	3020	3130	632	1880	1720	11060	12390	6680

CAL YR 1980 TOTAL 62416.6 MEAN 171 MAX 780 MIN 4.2 AC-FT 123800
WTR YR 1981 TOTAL 27127.0 MEAN 74.3 MAX 491 MIN 5.4 AC-FT 53810

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1963 to September 1968, October 1969 to September 1973, April 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1963 to September 1968, January 1976 to September 1981 (discontinued).
WATER TEMPERATURES: November 1963 to September 1968, January 1976 to September 1981 (discontinued).

INSTRUMENTATION.--Continuous monitor for specific conductance and water temperatures since October 1975.

REMARKS.--Daily maximum and minimum specific-conductance data available in district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 6,800 micromhos Mar. 29, 1978; minimum daily, 454 micromhos June 18, 1965.
WATER TEMPERATURES: Maximum, 34.5°C July 20, 1976; minimum, 0.0°C on several days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 5,430 micromhos Feb. 10; minimum daily, 720 micromhos Aug. 23.
WATER TEMPERATURES: Maximum daily, 28.0°C July 20; minimum daily, 0.0°C on several days during winter period.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN DIS-SOLVED (MG/L AS N)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
29...	1300	43	3730	4184	8.0	6.0	8.8	11.8	3.1	110	940
DEC											
01...	1345	80	3900	4450	8.0	3.5	41	11.6	3.4	21	280
22...	1230	74	4200	4800	8.3	.0	33	12.4	3.1	K14	192
JAN											
27...	1300	54	4200	4890	8.4	2.0	9.4	--	3.0	K4	<1
FEB											
17...	1330	70	4600	4670	8.2	8.0	48	15.2	3.5	<1	230
MAR											
23...	1300	49	4600	4810	8.5	12.0	41	10.4	2.7	18	220
APR											
27...	1345	16	4400	4700	8.4	25.0	4.6	11.7	1.9	35	5900
MAY											
27...	1400	26	4800	4960	8.4	25.0	6.8	10.3	2.3	280	620
JUN											
23...	1300	6.3	4600	4610	8.2	27.5	8.2	9.0	1.8	190	190
JUL											
21...	1200	415	2450	2440	7.8	25.0	650	--	1.3	1570	5600
AUG											
31...	1200	476	1660	1650	7.9	21.5	88	6.0	1.7	330	1800
SEP											
28...	1345	14	4100	4320	7.9	24.0	1.8	9.3	2.1	370	2100

K BASED ON NON-IDEAL COLONY COUNT.

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 29...	1600	360	170	520	5.7	11	260	2200	150	.9
DEC 01...	1700	370	190	560	5.9	13	250	2200	210	1.0
22...	1800	380	200	630	6.5	10	250	2400	200	.9
JAN 27...	1800	370	220	610	6.2	11	270	2500	200	.9
FEB 17...	1700	370	180	580	6.2	10	250	2300	160	.9
MAR 23...	1700	370	180	580	6.2	10	250	2400	200	.9
APR 27...	1700	370	180	560	6.0	12	230	2500	200	.8
MAY 27...	1800	400	200	650	6.6	11	230	2600	190	.8
JUN 23...	1700	370	180	510	5.4	11	230	2300	190	.7
JUL 21...	940	220	96	220	3.1	9.3	110	1200	36	.7
AUG 31...	650	160	61	150	2.8	6.9	130	620	40	.4
SEP 28...	1500	340	160	490	5.5	11	210	2100	170	.8

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
OCT 29...	15	3770	3590	5.1	442	1.7	1.7	.090	.060	1.4
DEC 01...	17	4130	3720	5.6	895	2.4	2.4	.050	.050	.95
22...	17	4260	4000	5.8	852	2.3	2.5	.100	.090	.90
JAN 27...	15	4230	4100	5.8	620	2.0	2.1	.110	.110	.37
FEB 17...	15	4100	3780	5.6	775	2.4	2.3	.100	.130	2.9
MAR 23...	13	4240	3910	5.8	561	1.6	1.6	.030	.000	1.1
APR 27...	13	4160	3980	5.7	177	.72	.95	.130	.140	1.2
MAY 27...	13	4460	4210	6.1	313	1.3	1.3	.090	.110	1.2
JUN 23...	14	4140	3720	5.6	70.4	.69	.59	.090	.000	1.2
JUL 21...	7.2	2060	1860	2.8	2310	.60	.62	.100	.110	3.1
AUG 31...	11	1350	1130	1.8	1740	.62	.59	.100	.040	1.4
SEP 28...	14	3640	3420	5.0	133	7.4	.76	.070	.070	1.0

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)	PHYTOPLANKTON, TOTAL (CELLS PER ML)
OCT										
29...	1.3	1.50	1.4	3.2	.150	.100	17	--	--	--
DEC										
01...	.95	1.00	1.0	3.4	.040	.050	--	.0	.7	8300
22...	.54	1.00	.63	3.3	.070	.040	9.3	--	--	--
JAN										
27...	.74	.48	.85	2.5	.060	.060	21	--	--	--
FEB										
17...	1.1	3.00	1.2	5.4	.080	.040	--	3700	--	--
MAR										
23...	1.1	1.10	1.1	2.7	.080	.030	11	--	--	4100
APR										
27...	.82	1.30	.96	2.0	.060	.030	19	--	--	--
MAY										
27...	.89	1.30	1.0	2.6	.070	.010	--	26	--	16000
JUN										
23...	1.2	1.30	1.2	2.0	.040	.020	7.4	--	--	17000
JUL										
21...	.57	3.20	.68	3.8	.810	.030	20	--	--	9600
AUG										
31...	1.1	1.50	1.1	2.1	.220	.030	--	8.2	<.1	2400
SEP										
28...	1.2	1.10	1.3	8.5	.060	.020	7.1	--	--	8100

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)
DEC										
01...	1	1	100	200	0	0	0	0	1	0
FEB										
17...	1	1	100	200	0	0	0	0	1	0
MAY										
27...	2	1	0	100	0	0	20	10	0	0
AUG										
31...	2	2	100	49	1	<1	10	10	3	<3

DATE	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
DEC									
01...	6	1	1100	50	8	2	100	40	.0
FEB									
17...	6	3	1600	60	7	2	120	40	.2
MAY									
27...	5	3	330	60	2	4	70	50	.2
AUG									
31...	11	2	3800	<10	5	6	260	8	.1

DATE	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLF (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
DEC									
01...	.0	9	1	35	35	0	0	40	20
FEB									
17...	.0	7	4	30	30	0	0	20	30
MAY									
27...	.0	5	3	10	10	0	0	10	20
AUG									
31...	.0	8	1	9	8	1	0	30	<3

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)
DEC										
01...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)
DEC										
01...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM
OCT									
01...	1330	22	174	10	--	--	--	--	--
29...	1325	43	345	40	--	--	--	--	--
DEC									
01...	1345	80	317	68	--	--	--	--	--
22...	1145	74	217	43	--	--	--	--	--
JAN									
26...	1430	56	208	31	--	--	--	--	--
FEB									
17...	1330	70	486	92	--	--	--	--	--
MAR									
23...	1300	49	170	22	--	--	--	--	--
APR									
27...	1440	16	55	2.4	--	--	--	--	--
MAY									
27...	1400	26	110	7.7	--	--	--	--	--
JUN									
23...	1300	6.3	105	1.8	--	--	--	--	--
JUL									
21...	1200	415	1230	1380	95	95	96	98	100
27...	1345	470	375	476	--	--	--	--	--
AUG									
31...	1300	476	371	477	--	--	--	--	--
SEP									
28...	1345	14	226	8.2	--	--	--	--	--

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3360	3470	3650	4450	5100	4640	4580	4430	3490	3900	2850	1100
2	3220	3450	3550	4470	5340	4610	4550	4400	4020	3710	3150	1030
3	3170	3450	3450	4500	5290	4490	4580	4330	4100	3930	3280	1030
4	3260	3380	3550	4520	5110	4360	4600	4380	4690	4000	3040	1020
5	3350	3340	3750	4550	5210	4530	4600	4460	4820	4400	2110	1050
6	3360	3340	3950	4570	4930	4560	4620	4240	4630	4300	2970	1130
7	3340	3300	4100	4590	4840	4340	4650	4050	4810	4480	3340	1200
8	3280	3290	4230	4620	4920	4400	4590	3870	4480	4480	3460	1530
9	3180	3300	4090	4640	4970	4480	4640	3920	4850	4480	3590	1440
10	3080	3290	4030	4670	5430	4510	4620	4260	4630	4640	3690	1740
11	3070	3300	3950	4690	5100	4500	4650	4400	4450	4610	3740	1750
12	3110	3340	3880	4720	4750	4540	4640	4510	4530	4550	3610	1940
13	3110	3370	3910	4740	4580	4650	4610	4380	4420	4380	3490	1940
14	3070	3340	3940	4770	4430	4690	4630	4300	4140	3620	3900	1710
15	3080	3320	3970	4790	4340	4670	4630	4330	4330	4040	2930	1910
16	3100	3320	4000	4820	4460	4720	4680	4250	4380	4000	1040	1980
17	2970	3340	4040	4840	4500	4670	4590	4040	4450	4500	1900	2010
18	2860	3340	4080	4870	4510	4760	4410	4160	4210	2730	2280	2200
19	2890	3320	4110	4890	4520	4750	4310	4120	4250	2590	2410	2400
20	3080	3340	4140	4920	4550	4750	4220	4190	4020	2390	1450	2600
21	3150	3340	4170	4940	4650	4610	4330	4330	4000	2390	847	2800
22	3180	3330	4200	4930	4470	4620	4460	4470	4200	2570	758	3050
23	3220	3340	4220	4980	4670	4650	4210	4500	4450	2570	720	3300
24	2910	3320	4250	4990	4640	4680	4100	4580	4550	2580	810	3500
25	2600	3190	4270	4990	4640	4690	4430	4690	4300	2570	853	3700
26	2780	3160	4300	4900	4590	4730	4220	4820	4070	2570	965	3800
27	2840	3150	4320	4500	4630	4750	4420	4670	4000	2370	978	3900
28	2870	3130	4350	4800	4690	4620	4460	4350	4170	2560	913	4100
29	3530	3130	4370	5070	---	4530	4490	4230	3940	2290	908	4300
30	3600	3250	4400	5100	---	4530	4520	2340	1980	2610	1050	4500
31	3490	---	4420	4960	---	---	---	3070	---	2580	1450	---

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE	DEC 1,80	MAR 23,81	MAY 27,81	JUN 23,81
TIME	1345	1300	1400	1300
TOTAL CELLS/ML	8300	4100	16000	17000
DIVERSITY: DIVISION	0.9	1.1	0.9	1.4
.CLASS	0.9	1.1	0.9	1.4
..ORDER	2.2	2.4	1.6	2.3
...FAMILY	2.3	2.6	1.6	2.5
....GENUS	2.6	2.6	1.6	2.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)								
.BACILLARIOPHYCEAE								
..ACHNANTHALES								
...ACHNANTHACEAE								
....ACHNANTHES	170	2	310	8	--	-	--	-
....COCCONEIS	55	1	--	-	--	-	--	-
..BACILLARIALES								
...NITZSCHIACEAE								
....HANTZSCHIA	--	-	--	-	--	-	--	-
....NITZSCHIA	2100#	25	360	9	1400	9	1300	8
..EPITHEMIALES								
...EPITHEMIACEAE								
....RHOPALODIA	55	1	--	-	--	-	--	-
..EUPODISCALES								
...COSCINODISCACEAE								
....CYCLOTELLA	440	5	390	10	12000*	71	8500#	49
....MELOSIRA	--	-	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-	--	-
..FRAGILARIALES								
...FRAGILARIACEAE								
....ASTERIONELLA	--	-	--	-	--	-	810	5
....SYNEDRA	--	-	--	-	--	-	--	-
..NAVICULALES								
...CYMBELLACEAE								
....AMPHORA	55	1	--	-	--	-	100	1
....CYMBELLA	--	-	--	-	--	-	--	-
...ENTOMONEIDACEAE								
....ENTOMONEIS	55	1	56	1	--	-	--	-
...GOMPHONEMACEAE								
....GOMPHONEMA	55	1	110	3	--	-	--	-
...NAVICULACEAE								
....NAVICULA	2500#	30	1500#	38	560	3	200	1
....PLEUROSIGMA	--	-	--	-	--	-	--	-
..SURIRELLALES								
...SURIRELLACEAE								
....SURIRELLA	55	1	140	3	--	-	--	-
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...DICTYOSPHAERIACEAE								
....DICTYOSPHAERIUM	--	-	--	-	140	1	200	1
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	--	-	980	6	400	2
....OOCYSTIS	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	--	-	810	5
....SCENEDESMUS	--	-	--	-	--	-	400	2
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	220	6	700	4	300	2
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	560	3	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	28	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	890#	22	--	-	--	-
....ANACYSTIS	330	4	--	-	420	3	2100	12
..OSCILLATORIALES								
...OSCILLATORIACEAE								
....LYNGBYA	1900#	23	--	-	--	-	--	-
....OSCILLATORIA	550	7	--	-	--	-	1900	11
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	100	1
....TRACHELOMONAS	--	-	--	-	--	-	100	1

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2.

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE	JUL 21,81	AUG 31,81	SEP 28,81
TIME	1200	1200	0000
TOTAL CELLS/ML	9600	2400	8100
DIVERSITY: DIVISION	1.3	1.7	0.4
.CLASS	1.3	1.7	0.4
..ORDER	2.1	2.5	1.2
...FAMILY	2.2	2.7	1.2
....GENUS	2.5	2.8	1.2

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
BACILLARIOPHYTA (DIATOMS)						
.BACILLARIOPHYCEAE						
..ACHNANTHALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-
..BACILLARIALES						
...NITZSCHIACEAE						
....HANTZSCHIA	140	1	--	-	--	-
....NITZSCHIA	420	4	320	13	6300#	77
..EPITHEMIALES						
...EPITHEMIACEAE						
....RHOPALODIA	--	-	--	-	--	-
..EUPODISCALES						
...COSCINODISCACEAE						
....CYCLOTELLA	560	6	140	6	400	5
....MELOSIRA	840	9	--	-	--	-
....STEPHANODISCUS	--	-	36	1	--	-
..FRAGILARIALES						
...FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
....SYNEDRA	--	-	36	1	--	-
..NAVICULALES						
...CYMBELLACEAE						
....AMPHORA	140	1	--	-	--	-
....CYMBELLA	140	1	--	-	160	2
...ENTOMONEIDACEAE						
....ENTOMONEIS	--	-	--	-	--	-
...GOMPHONEMACEAE						
....GOMPHONEMA	--	-	36	1	--	-
...NAVICULACEAE						
....NAVICULA	2100#	22	700#	29	720	9
....PLEUROSIGMA	140	1	--	-	--	-
..SURIRELLALES						
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...DICTYOSPHAERIACEAE						
....DICTYOSPHAERIUM	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	36	1	--	-
....OOCYSTIS	560	6	72	3	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	--	-	--	-
....SCENEDESMUS	--	-	140	6	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	280	3	--	-	400	5
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-
..OSCILLATORIALES						
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	--	-
....OSCILLATORIA	4200#	44	450#	19	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	18	1	160	2
....TRACHELOMONAS	--	-	410#	17	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

08213500 RIO GRANDE AT THIRTYMILE BRIDGE, NEAR CREEDE, CO

LOCATION.--Lat 37°43'29", long 107°15'18", in NE¼ sec.13, T.40 N., R.4 W., Hinsdale County, Hydrologic Unit 13010001, on right bank 70 ft (21 m) downstream from bridge, 500 ft (150 m) upstream from Squaw Creek, 0.8 mi (1.3 km) downstream from Rio Grande Reservoir, and 20 mi (32 km) southwest of Creede.

DRAINAGE AREA.--163 mi^2 (422 km^2).

PERIOD OF RECORD.--June 1909 to September 1923, May 1925 to current year. No winter records 1910, 1926. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 9,300 ft (2,835 m), from topographic map. See WSP 1712 or 1732 for history of changes prior to Oct. 1, 1934.

REMARKS.--Records good. Flow regulated by Rio Grande Reservoir, capacity, 51,110 acre-ft (63.0 hm^3) since 1912. Natural flow of stream affected by transmountain diversions from Colorado River basin to drainage area above station through Weminuche Pass and Pine River-Weminuche Pass ditches (see elsewhere in this report). No known diversions above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--68 years (water years 1911-23, 1927-81), 210 ft^3/s (5.947 m^3/s), 152,100 acre-ft/yr (188 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,500 ft^3/s (212 m^3/s) June 28, 1927, gage height, 7.03 ft (2.143 m), present datum, from rating curve extended above 1,200 ft^3/s (34 m^3/s); minimum daily, 0.10 ft^3/s (0.003 m^3/s) Nov. 2-4, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,430 ft^3/s (40.5 m^3/s) at 1430 June 9, gage height, 3.68 ft (1.122 m); minimum daily, 7.6 ft^3/s (0.22 m^3/s) Nov. 2-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134	7.9	7.8	8.1	8.4	8.6	9.5	350	818	88	8.7	90
2	134	7.6	7.8	8.1	8.4	8.6	9.5	405	786	119	9.1	90
3	134	7.6	7.8	8.1	8.4	8.6	9.5	490	866	143	10	52
4	134	7.6	7.8	8.2	8.4	8.7	9.5	526	970	106	25	17
5	134	7.6	7.9	8.2	8.5	8.7	9.5	449	1070	56	36	17
6	77	7.6	7.9	8.2	8.5	8.7	9.5	332	1180	42	37	17
7	49	7.6	7.9	8.2	8.5	8.7	47	252	1310	42	71	17
8	40	7.6	7.9	8.2	8.5	8.7	49	220	1360	43	95	17
9	36	7.6	7.9	8.2	8.5	8.7	35	174	1400	44	97	17
10	36	7.6	7.9	8.2	8.5	8.7	35	160	1400	71	97	17
11	36	7.6	7.9	8.2	8.5	8.7	21	160	1370	94	97	33
12	36	7.6	7.9	8.2	8.5	8.7	14	160	1220	94	97	52
13	36	7.6	7.9	8.2	8.5	8.7	16	160	1050	111	97	52
14	36	7.6	7.9	8.3	8.5	8.7	15	145	810	131	97	64
15	36	7.7	8.0	8.3	8.5	8.7	17	138	514	199	61	78
16	36	7.7	8.0	8.3	8.5	8.7	20	138	342	246	36	78
17	35	7.7	8.0	8.3	8.5	8.7	20	138	226	263	29	78
18	34	7.7	8.0	8.3	8.5	8.7	15	138	191	232	22	58
19	34	7.7	8.0	8.3	8.6	8.7	13	382	191	138	22	37
20	34	7.7	8.0	8.3	8.6	8.7	13	514	197	88	22	37
21	34	7.7	8.0	8.3	8.6	8.7	13	514	229	47	22	38
22	34	7.7	8.0	8.3	8.6	8.7	13	526	274	23	54	38
23	34	7.7	8.0	8.3	8.6	8.7	13	592	328	23	77	26
24	34	7.7	8.0	8.3	8.6	8.7	31	692	346	47	78	51
25	34	7.8	8.1	8.4	8.6	8.7	123	882	346	74	41	73
26	34	7.8	8.1	8.4	8.6	8.7	194	1020	218	84	17	73
27	34	7.8	8.1	8.4	8.6	9.1	282	1040	83	109	32	73
28	18	7.8	8.1	8.4	8.6	9.5	328	1040	24	125	89	74
29	7.9	7.8	8.1	8.4	---	9.5	328	1100	11	94	89	74
30	7.9	7.8	8.1	8.4	---	9.5	328	1060	58	54	90	74
31	7.9	---	8.1	8.4	---	9.5	---	914	---	18	92	---
TOTAL	1540.7	230.5	246.9	256.4	238.6	273.0	2040.0	14811	19188	3048	1746.8	1512
MEAN	49.7	7.68	7.96	8.27	8.52	8.81	68.0	478	640	98.3	56.3	50.4
MAX	134	7.9	8.1	8.4	8.6	9.5	328	1100	1400	263	97	90
MIN	7.9	7.6	7.8	8.1	8.4	8.6	9.5	138	11	18	8.7	17
AC-FT	3060	457	490	509	473	541	4050	29380	38060	6050	3460	3000

CAL YR 1980 TOTAL 100303.1 MEAN 274 MAX 1760 MIN 7.6 AC-FT 199000
WTR YR 1981 TOTAL 45131.9 MEAN 124 MAX 1400 MIN 7.6 AC-FT 89520

NOTE.--NO GAGE-HEIGHT RECORD NOV. 9 TO MAR. 16.

08214500 NORTH CLEAR CREEK BELOW CONTINENTAL RESERVOIR, CO

LOCATION.--Lat 37°53'18", long 107°12'10", in NE¼SW¼ sec.21, T.42 N., R.3 S., Hinsdale County, Hydrologic Unit 13010001, on left bank 100 ft (30 m) downstream from bridge, 1,000 ft (300 m) downstream from Continental Reservoir, and 15 mi (24 km) west of Creede.

DRAINAGE AREA.--51.7 mi² (134 km²).

PERIOD OF RECORD.--May 1929 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1960, published as Clear Creek below Continental Reservoir.

REVISED RECORDS.--WSP 1008: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 10,200 ft (3,109 m), from topographic map. Prior to Oct. 2, 1951, at site 150 ft (46 m) upstream at different datum.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Continental Reservoir, capacity, 26,720 acre-ft (32.9 hm³). No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--52 years, 29.8 ft³/s (0.844 m³/s), 21,590 acre-ft/yr (26.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 362 ft³/s (10.3 m³/s) May 8, 1952, gage height, 3.66 ft (1.116 m), from rating curve extended above 120 ft³/s (3.4 m³/s); no flow June 22, 23, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 114 ft³/s (3.23 m³/s) at 1700 June 19, gage height, 1.61 ft (0.491 m); minimum daily, 2.2 ft³/s (0.062 m³/s) Oct. 22-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	2.5	2.5	2.6	2.6	2.7	2.8	79	38	28	2.5	17
2	12	2.5	2.5	2.6	2.6	2.7	2.8	67	49	31	2.5	18
3	12	2.5	2.5	2.6	2.6	2.7	2.8	59	50	28	2.5	15
4	11	2.5	2.5	2.6	2.6	2.7	2.8	49	44	26	2.5	14
5	11	2.5	2.5	2.6	2.6	2.7	2.8	26	51	17	2.5	15
6	11	2.5	2.5	2.6	2.6	2.7	2.8	18	80	11	2.5	16
7	11	2.5	2.5	2.6	2.6	2.7	6.9	21	88	9.6	2.5	16
8	11	2.5	2.5	2.6	2.6	2.7	11	22	80	11	2.5	14
9	11	2.5	2.5	2.6	2.6	2.7	11	23	86	11	2.5	14
10	11	2.5	2.5	2.6	2.6	2.7	11	23	99	17	2.5	16
11	11	2.5	2.5	2.6	2.6	2.7	12	22	106	26	2.8	16
12	11	2.5	2.5	2.6	2.6	2.7	12	21	88	32	2.8	16
13	11	2.5	2.5	2.6	2.6	2.7	11	21	52	34	2.8	16
14	9.6	2.5	2.5	2.6	2.6	2.7	13	19	61	34	2.8	18
15	8.6	2.5	2.5	2.6	2.6	2.7	24	19	83	36	2.8	19
16	8.6	2.5	2.5	2.6	2.6	2.7	38	19	81	36	7.2	19
17	8.6	2.5	2.5	2.6	2.6	2.7	53	19	77	36	13	19
18	8.6	2.5	2.5	2.6	2.6	2.7	64	22	80	36	16	16
19	8.6	2.5	2.5	2.6	2.6	2.7	62	24	96	21	17	14
20	9.6	2.5	2.5	2.6	2.6	2.7	57	28	113	13	16	11
21	5.1	2.5	2.5	2.6	2.6	2.7	49	32	112	12	14	10
22	2.2	2.5	2.5	2.6	2.6	2.7	36	30	47	12	14	10
23	2.2	2.5	2.5	2.6	2.6	2.7	30	26	2.5	12	14	10
24	2.2	2.5	2.5	2.6	2.6	2.7	20	25	5.8	15	12	12
25	2.2	2.5	2.5	2.6	2.6	2.7	15	24	6.4	16	8.6	13
26	2.2	2.5	2.5	2.6	2.6	2.7	30	31	4.8	19	7.8	13
27	2.2	2.5	2.5	2.6	2.6	2.7	50	42	6.0	21	7.8	13
28	2.2	2.5	2.5	2.6	2.6	2.7	58	53	9.6	24	7.8	12
29	2.2	2.5	2.5	2.6	---	2.7	73	62	14	26	9.1	11
30	2.2	2.5	2.5	2.6	---	2.7	82	42	19	21	10	9.6
31	2.2	---	2.5	2.6	---	2.7	---	30	---	8.3	13	---
TOTAL	235.3	75.0	77.5	80.6	72.8	83.7	845.7	998	1729.1	679.9	226.3	432.6
MEAN	7.59	2.50	2.50	2.60	2.60	2.70	28.2	32.2	57.6	21.9	7.30	14.4
MAX	12	2.5	2.5	2.6	2.6	2.7	82	79	113	36	17	19
MIN	2.2	2.5	2.5	2.6	2.6	2.7	2.8	18	2.5	8.3	2.5	9.6
AC-FT	467	149	154	160	144	166	1680	1980	3430	1350	449	858

CAL YR 1980 TOTAL 10556.1 MEAN 28.8 MAX 311 MIN 1.6 AC-FT 20940
WTR YR 1981 TOTAL 5536.5 MEAN 15.2 MAX 113 MIN 2.2 AC-FT 10980

NOTE.--NO GAGE-HEIGHT RECORD NOV. 5 TO APR. 7.

08216500 WILLOW CREEK AT CREEDE, CO

LOCATION.--Lat 37°51'22", long 106°55'37", in SE¼ sec.25, T.42 N., R.1 W. (projected), Mineral County, Hydrologic Unit 13010001, on left bank at north city limits of Creede, 8 ft (2 m) upstream from entrance to paved channel just downstream from Windy Gulch, 0.5 mi (0.8 km) downstream from confluence of East and West Willow Creeks, and 2.6 mi (4.2 km) upstream from mouth.

DRAINAGE AREA.--35.3 mi² (91.4 km²).

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WSP 1712: 1955, 1956(M).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 8,880 ft (2,707 m), from topographic map. Prior to Sept. 2, 1953, at site 17 ft (5 m) upstream at present datum.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Diversions above station for municipal supply of Creede. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--30 years, 21.6 ft³/s (0.612 m³/s), 15,650 acre-ft/yr (19.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 430 ft³/s (12.2 m³/s) June 5, 1957, gage height, 4.14 ft (1.262 m); maximum gage height, 4.16 ft (1.268 m) May 23, 1958; minimum daily discharge, 0.2 ft³/s (0.006 m³/s) Mar. 25, 1956, probably caused by snowslide upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 67 ft³/s (1.90 m³/s) a 1800 June 7, gage height, 2.22 ft (0.677 m), no peak above base of 120 ft³/s (3.4 m³/s); minimum daily, 2.2 ft³/s (0.062 m³/s) many days in January and February.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	6.1	7.0	4.0	2.2	3.5	2.9	29	40	18	25	22
2	8.3	6.3	7.0	3.5	2.2	3.5	2.9	30	39	15	27	20
3	8.8	6.2	7.0	3.0	2.2	3.5	3.0	29	41	14	25	22
4	8.8	5.7	7.0	3.0	2.2	3.5	3.0	23	40	12	22	22
5	9.6	6.2	7.0	2.8	2.2	3.3	3.0	21	46	12	20	23
6	8.8	6.2	7.0	2.5	2.2	3.0	3.1	19	51	12	20	22
7	7.0	5.9	7.0	2.5	2.2	3.0	3.3	16	53	11	19	25
8	7.0	5.9	6.5	2.5	2.2	2.8	3.5	13	49	13	19	27
9	7.0	5.9	6.0	2.5	2.2	2.6	4.5	12	46	13	20	28
10	6.2	5.9	6.0	2.5	2.2	2.5	6.2	12	39	25	23	28
11	7.0	5.6	5.0	2.5	2.2	2.5	6.5	12	36	20	28	28
12	6.5	5.9	4.5	2.5	2.2	2.5	8.1	9.8	30	18	26	28
13	5.9	5.9	4.0	2.3	2.3	2.5	11	11	29	23	25	28
14	7.0	5.3	4.0	2.3	2.4	2.5	11	11	26	28	24	27
15	9.0	3.8	4.5	2.2	2.5	2.5	8.2	11	23	24	24	26
16	8.0	5.3	5.0	2.2	2.6	2.5	6.7	9.8	22	22	23	26
17	6.9	4.4	5.0	2.2	2.8	2.5	8.3	9.6	21	26	22	26
18	6.4	4.4	5.0	2.2	3.0	2.5	13	10	20	34	22	23
19	8.4	5.3	5.0	2.2	3.3	2.5	15	12	18	27	20	23
20	7.5	5.0	5.0	2.2	3.5	2.5	13	13	17	25	18	22
21	7.4	5.0	5.0	2.2	3.8	2.5	12	14	16	23	19	21
22	7.0	5.0	5.0	2.2	4.0	2.5	14	13	16	24	21	21
23	6.5	5.0	5.0	2.2	4.0	2.5	23	15	15	26	21	20
24	6.4	5.0	5.0	2.2	4.0	2.5	21	19	14	26	19	20
25	6.9	5.0	4.5	2.2	4.0	2.5	23	23	13	23	20	20
26	6.0	5.5	4.5	2.2	4.0	2.5	25	25	13	29	18	18
27	6.0	5.5	4.5	2.2	3.7	2.5	21	28	14	28	18	18
28	5.5	5.5	4.3	2.2	3.5	2.5	21	33	14	25	18	16
29	6.0	6.0	4.0	2.2	---	2.6	27	30	12	23	20	17
30	6.0	6.5	4.0	2.2	---	2.7	30	32	12	23	23	17
31	6.8	---	4.0	2.2	---	2.8	---	37	---	22	24	---
TOTAL	222.4	165.2	164.3	75.8	79.8	84.3	353.2	582.2	825	664	673	684
MEAN	7.17	5.51	5.30	2.45	2.85	2.72	11.8	18.8	27.5	21.4	21.7	22.8
MAX	9.6	6.5	7.0	4.0	4.0	3.5	30	37	53	34	28	28
MIN	5.5	3.8	4.0	2.2	2.2	2.5	2.9	9.6	12	11	18	16
AC-FT	441	328	326	150	158	167	701	1150	1640	1320	1330	1360

CAL YR 1980 TOTAL 8768.3 MEAN 24.0 MAX 198 MIN 3.8 AC-FT 17390
WTR YR 1981 TOTAL 4573.2 MEAN 12.5 MAX 53 MIN 2.2 AC-FT 9070

NOTE.--NO GAGE-HEIGHT RECORD NOV. 21 TU APR. 7.

08217500 RIO GRANDE AT WAGONWHEEL GAP, CO

LOCATION.--Lat 37°46'01", long 106°49'51", in NW¼NE¼ sec.35, T.41 N., R.1 E., Mineral County, Hydrologic Unit 13010001, on right bank 250 ft (76 m) upstream from private bridge, 0.4 mi (0.6 km) upstream from Goose Creek, and 0.4 mi (0.6 km) west of town of Wagonwheel Gap.

DRAINAGE AREA.--780 mi^2 (2,020 km^2).

PERIOD OF RECORD.--May 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 8,431.26 ft (2,569.848 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by Santa Maria, Rio Grande, and Continental Reservoirs, combined capacity, 121,400 acre-ft (150 hm^3). Diversions above station for irrigation. Transmountain diversions to drainage area above station from Colorado River basin (see elsewhere in this report). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--30 years, 502 ft^3/s (14.22 m^3/s), 363,700 acre-ft/yr (448 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,870 ft^3/s (138 m^3/s) July 26, 1957, gage height, 5.38 ft (1.640 m); maximum gage height, 5.84 ft (1.780 m) Sept. 6, 1970; minimum daily discharge, 46 ft^3/s (1.30 m^3/s) Dec. 9, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,450 ft^3/s (69.4 m^3/s) at 0330 June 8, gage height, 4.11 ft (1.253 m); minimum daily, 90 ft^3/s (2.55 m^3/s) Feb. 11, Mar. 9-12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	294	128	132	130	100	106	135	990	1650	487	405	403
2	284	127	125	130	110	104	140	1060	1640	495	418	380
3	275	124	135	125	115	105	130	1330	1810	517	383	378
4	270	127	127	122	120	105	125	1210	1710	482	357	323
5	267	130	122	120	120	103	140	1070	1810	422	351	320
6	264	135	115	117	120	99	160	900	2050	359	341	309
7	204	135	120	120	120	95	190	771	2220	341	322	310
8	172	138	120	115	115	95	225	683	2260	354	372	300
9	161	130	108	117	110	90	255	601	2240	403	382	301
10	153	135	104	120	95	90	287	556	2200	568	400	297
11	161	127	122	120	90	90	300	559	2130	547	506	290
12	164	140	122	120	100	90	322	573	1940	535	562	323
13	167	140	120	120	110	95	292	566	1660	544	499	373
14	227	138	122	110	110	100	298	562	1440	589	471	352
15	212	108	125	115	110	100	288	578	1140	669	451	354
16	196	106	117	120	115	100	312	593	903	702	433	356
17	183	108	120	130	120	100	389	593	785	751	444	345
18	184	102	122	130	120	100	435	574	686	743	406	330
19	182	112	125	130	120	100	438	659	669	648	392	306
20	182	112	117	125	120	100	415	977	676	524	371	283
21	179	110	130	120	120	105	382	985	678	470	358	278
22	172	110	135	120	125	105	401	987	696	409	388	262
23	164	132	122	120	125	105	411	1040	649	409	413	256
24	148	130	120	120	125	110	431	1160	670	444	405	255
25	156	122	120	120	131	110	497	1310	660	468	399	280
26	158	125	125	120	155	110	649	1500	644	508	326	289
27	160	117	130	120	139	115	726	1620	506	565	310	284
28	154	145	130	120	129	120	779	1830	410	539	340	275
29	136	138	120	110	---	120	824	1870	383	523	384	277
30	131	132	120	105	---	125	936	1830	381	477	380	283
31	137	---	125	100	---	130	---	1770	---	426	432	---
TOTAL	5897	3763	3797	3711	3289	3222	11312	31307	37296	15918	12401	9372
MEAN	190	125	122	120	117	104	377	1010	1243	513	400	312
MAX	294	145	135	130	155	130	936	1870	2260	751	562	403
MIN	131	102	104	100	90	90	125	556	381	341	310	255
AC-FT	11700	7460	7530	7360	6520	6390	22440	62100	73980	31570	24600	18590

CAL YR 1980 TOTAL 228636 MEAN 625 MAX 3940 MIN 90 AC-FT 453500
WTR YR 1981 TOTAL 141285 MEAN 387 MAX 2260 MIN 90 AC-FT 280200

NOTE.--NO GAGE-HEIGHT RECORD MAR. 8 TO APR. 8.

08218500 GOOSE CREEK AT WAGONWHEEL GAP, CO

LOCATION.--Lat 37°45'07", long 106°49'46", in SW¼SE¼ sec.35, T.41 N., R.1 E., Mineral County, Hydrologic Unit 13010001, on left bank 0.2 mi (0.3 km) downstream from Pierce Creek, 1.0 mi (1.6 km) upstream from mouth, 1.0 mi (1.6 km) south of Wagonwheel Gap, and 8.8 mi (14.2 km) southeast of Creede.

DRAINAGE AREA.--90 mi² (230 km²), approximately.

PERIOD OF RECORD.--June 1954 to current year.

REVISED RECORDS.--WSP 1712: 1955, 1956(M).

GAGE.--Water-stage recorder. Altitude of gage is 8,460 ft (2,579 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several small diversions above station for irrigation. Lake Humphreys, capacity, 842 acre-ft (1.04 hm³), with a fixed spillway and no gates has slight effect on flow. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--27 years, 58.8 ft³/s (1.665 m³/s), 42,600 acre-ft/yr (52.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 879 ft³/s (24.9 m³/s) Sept. 14, 1970, gage height, 4.52 ft (1.378 m), from recorded range in stage, from rating curve extended above 480 ft³/s (14 m³/s); minimum daily, 4.5 ft³/s (0.13 m³/s) Jan. 6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1927 exceeded all other observed floods at this location, including those of October 1911 and June 18, 1949. Flood of October 1911 probably exceeded that of June 18, 1949, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 272 ft³/s (7.70 m³/s) at 0030 June 8, gage height, 3.43 ft (1.045 m), only peak above base of 200 ft³/s (5.7 m³/s); minimum daily, 12 ft³/s (0.34 m³/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	16	20	21	14	16	20	85	141	76	42	34
2	20	20	21	20	13	16	22	96	146	64	48	29
3	20	20	21	19	14	17	20	149	175	58	44	26
4	17	21	21	19	15	16	18	106	141	46	39	29
5	17	21	21	20	14	14	19	92	146	44	36	34
6	17	22	21	17	13	16	23	85	184	40	35	31
7	18	22	22	16	14	15	30	79	208	45	34	30
8	20	22	20	16	13	13	29	70	218	42	32	28
9	19	23	18	15	16	14	29	59	222	45	32	28
10	18	22	18	15	14	16	41	58	208	68	37	31
11	18	22	21	15	12	16	41	59	194	58	58	29
12	18	23	21	16	14	15	39	56	172	51	52	34
13	19	23	22	15	14	15	32	54	152	45	42	36
14	19	22	21	15	15	15	32	54	133	51	37	32
15	22	19	21	15	16	15	32	63	106	64	35	31
16	20	20	21	16	15	14	35	59	92	61	35	31
17	19	18	20	17	16	14	41	54	87	66	36	29
18	19	16	20	17	16	14	45	51	87	61	36	28
19	16	16	20	15	17	15	42	58	79	56	34	28
20	15	16	20	14	18	16	42	61	81	46	31	29
21	16	16	19	15	16	14	41	61	79	44	31	28
22	16	20	19	16	14	14	44	58	76	40	37	26
23	15	22	19	16	15	16	46	59	83	40	34	26
24	14	22	17	16	15	18	51	66	70	54	32	35
25	15	22	18	15	16	19	56	66	36	45	32	31
26	15	21	20	17	16	20	58	76	56	51	32	29
27	16	20	20	15	15	19	59	92	56	59	31	26
28	16	22	20	17	15	18	63	133	54	45	31	24
29	15	22	19	16	---	18	70	133	61	41	31	26
30	16	21	20	14	---	20	77	136	72	39	31	26
31	15	---	20	16	---	20	---	141	---	40	39	---
TOTAL	540	612	621	506	415	498	1197	2469	3615	1585	1136	884
MEAN	17.4	20.4	20.0	16.3	14.8	16.1	39.9	79.6	121	51.1	36.6	29.5
MAX	22	23	22	21	18	20	77	149	222	76	58	36
MIN	14	16	17	14	12	13	18	51	36	39	31	24
AC-FT	1070	1210	1230	1000	823	988	2370	4900	7170	3140	2250	1750

CAL YR 1980 TOTAL 26800 MEAN 73.2 MAX 517 MIN 14 AC-FT 53160
WTR YR 1981 TOTAL 14078 MEAN 38.6 MAX 222 MIN 12 AC-FT 27920

08219500 SOUTH FORK RIO GRANDE AT SOUTH FORK, CO

LOCATION.--Lat 37°39'25", long 106°38'55", in SW¼NE¼ sec.3, T.39 N., R.3 E., Rio Grande County, Hydrologic Unit 13010001, on left bank near U.S. Highway 160, 700 ft (210 m) downstream from Church Creek, 0.8 mi (1.3 km) southwest of village of South Fork, and 1.4 mi (2.3 km) upstream from mouth.

DRAINAGE AREA.--216 mi^2 (559 km^2).

PERIOD OF RECORD.--August 1910 to September 1922, May 1936 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 898: 1911(M). WSP 1312: 1912, 1944(M). WSP 1632: 1956-58(P).

GAGE.--Water-stage recorder. Datum of gage is 8,221.79 ft (2,506.002 m), National Geodetic Vertical Datum of 1929. Aug. 9, 1910, to Mar. 28, 1915, nonrecording gage, and Mar. 29, 1915, to Sept. 30, 1922, water-stage recorder, at bridges 1 mi (1.6 km) downstream at different datums.

REMARKS.--Records good except those for winter period, which are poor. Transmountain diversions from Colorado River basin to drainage area above station through Treasure Pass ditch (see elsewhere in this report). Natural flow of stream affected by a few small diversions for irrigation, slight regulation by Beaver Creek Reservoir, capacity, 4,760 acre-ft (5.87 hm^3), and several smaller storage reservoirs. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--57 years (water years 1911-22, 1937-81), 208 ft^3/s (5.891 m^3/s), 150,700 acre-ft/yr (186 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft^3/s (227 m^3/s) Oct. 5, 1911, gage height, 9.7 ft (2.96 m), from floodmarks, present site and datum, from rating curve extended above 1,500 ft^3/s (42 m^3/s); minimum daily, 10 ft^3/s (0.28 m^3/s) Jan. 6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, exceeded all other observed floods at this location since at least 1873. Flood of June 29, 1927, reached a stage about 1 ft (0.3 m) lower than that of Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 864 ft^3/s (24.5 m^3/s) at 0730 May 3, gage height, 3.96 ft (1.207 m), no peak above base of 900 ft^3/s (25 m^3/s); minimum daily, 28 ft^3/s (0.79 m^3/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	43	34	34	31	35	49	482	581	137	88	101
2	47	43	34	34	30	36	51	605	540	135	87	87
3	48	41	34	34	30	37	50	790	581	112	83	81
4	47	42	34	34	31	37	49	650	496	99	76	83
5	48	43	34	34	31	37	48	563	451	87	71	101
6	48	43	33	33	31	39	53	491	518	80	67	99
7	47	45	32	32	31	38	63	423	581	73	64	102
8	47	45	30	32	31	37	67	375	590	73	64	99
9	46	43	29	32	31	36	76	328	581	104	64	118
10	46	43	30	33	30	37	90	310	545	105	81	116
11	45	42	32	33	28	38	111	292	504	97	104	105
12	45	42	34	33	30	38	121	270	439	93	131	109
13	44	45	35	33	30	38	118	240	379	84	101	109
14	45	43	35	32	31	38	111	225	322	88	91	99
15	60	32	36	31	32	39	112	265	255	111	83	91
16	54	32	36	31	32	39	114	248	205	107	84	87
17	53	32	35	32	32	39	139	235	187	155	88	83
18	53	31	35	33	33	38	167	232	175	125	88	78
19	53	31	35	33	33	42	169	260	165	109	83	72
20	52	30	35	33	34	40	195	265	153	96	80	62
21	53	30	35	33	33	43	222	258	143	85	75	61
22	52	31	35	33	32	43	232	258	139	81	77	58
23	50	32	35	34	33	43	235	265	143	78	80	58
24	46	34	33	34	34	46	262	270	133	125	69	88
25	50	34	35	33	35	46	298	280	123	102	65	80
26	50	33	35	33	35	50	325	340	123	101	76	83
27	51	31	35	33	34	49	322	419	118	131	70	75
28	50	32	35	32	34	48	319	532	111	107	83	71
29	40	33	35	32	---	48	340	504	137	91	88	70
30	43	34	33	32	---	49	403	536	155	87	83	73
31	43	---	34	32	---	48	---	568	---	84	96	---
TOTAL	1504	1115	1052	1017	892	1271	4911	11779	9573	3142	2540	2599
MEAN	48.5	37.2	33.9	32.8	31.9	41.0	164	380	319	101	81.9	86.6
MAX	60	45	36	34	35	50	403	790	590	155	131	118
MIN	40	30	29	31	28	35	48	225	111	73	64	58
AC-FT	2980	2210	2090	2020	1770	2520	9740	23360	18990	6230	5040	5160

CAL YR 1980 TOTAL 92058 MEAN 252 MAX 2310 MIN 29 AC-FT 182600
WTR YR 1981 TOTAL 41395 MEAN 113 MAX 790 MIN 28 AC-FT 82110

NOTE.--NO GAGE-HEIGHT RECORD DEC. 9 TO MAR. 16.

08220000 RIO GRANDE NEAR DEL NORTE, CO

LOCATION.--Lat 37°41'22", long 106°27'38", in NW¼ sec.29, T.40 N., R.5 E., Rio Grande County, Hydrologic Unit 13010001, on right bank 20 ft (6 m) downstream from county highway bridge, 6.0 mi (9.7 km) west of Del Norte, and 6.8 mi (10.9 km) upstream from Pinos Creek.

DRAINAGE AREA.--1,320 mi^2 (3,419 km^2), approximately.

PERIOD OF RECORD.--June 1889 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 763: Drainage area. WSP 1312: 1889, 1901, 1913-14.

GAGE.--Water-stage recorder. Datum of gage is 7,980.25 ft (2,432.380 m), National Geodetic Vertical Datum of 1929. Prior to May 16, 1908, nonrecording gage at site 4 mi (6 km) downstream at different datum. May 16, 1908, to Nov. 8, 1910, nonrecording gages on bridge at present site and datum.

REMARKS.--Records good except those for winter period, which are fair. Small diversions above station for irrigation. Flow regulated by Beaver Creek Reservoir since 1910, Santa Maria Reservoir since 1912, Rio Grande Reservoir since 1912, and Continental Reservoir since 1925, combined capacity, 126,100 acre-ft (155 hm^3), and by several smaller reservoirs. Transmountain diversions to drainage area above station from Colorado River basin (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--92 years, 894 ft^3/s (25.32 m^3/s), 647,700 acre-ft/yr (799 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft^3/s (510 m^3/s) Oct. 5, 1911, gage height, 6.80 ft (2.073 m), from rating curve extended above 12,900 ft^3/s (365 m^3/s); minimum daily, 69 ft^3/s (1.95 m^3/s) Aug. 21, 1902.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1873, that of Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,540 ft^3/s (100 m^3/s) at 0800 June 8, gage height, 3.74 ft (1.140 m); minimum daily, 145 ft^3/s (4.11 m^3/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	340	212	198	180	150	185	163	1510	2430	555	462	488
2	335	212	185	185	150	178	182	1730	2320	598	455	437
3	330	208	195	185	160	185	188	2260	2590	590	449	413
4	325	212	198	180	165	169	169	2130	2450	541	390	390
5	325	216	216	180	170	169	155	1830	2410	462	362	390
6	320	216	212	170	165	182	178	1560	2790	390	351	384
7	290	216	192	165	165	163	212	1320	3120	340	320	413
8	246	216	158	165	165	158	235	1150	3250	340	325	390
9	238	212	146	165	170	160	300	1010	3270	390	368	413
10	227	208	163	170	165	163	335	920	3190	569	395	413
11	223	205	185	170	145	169	378	893	3060	658	541	401
12	223	205	212	170	160	160	425	875	2860	605	745	425
13	231	223	216	175	170	160	395	848	2450	576	590	494
14	235	235	223	165	170	163	373	804	2130	745	534	474
15	286	198	216	160	170	169	378	857	1640	857	488	449
16	300	182	227	155	165	163	378	875	1280	866	468	455
17	272	182	227	165	165	172	468	848	1080	974	481	431
18	268	170	223	165	170	160	583	822	929	965	462	413
19	259	165	216	165	175	166	598	866	875	857	407	390
20	255	160	216	160	180	182	620	1200	857	665	390	335
21	255	160	205	155	185	169	612	1250	848	555	373	325
22	255	163	205	160	163	160	635	1240	857	474	384	305
23	242	182	212	170	170	172	650	1290	830	437	425	290
24	219	208	185	175	170	188	697	1410	839	527	401	330
25	227	188	192	165	170	182	796	1550	754	548	401	330
26	250	172	219	160	170	195	965	1840	770	569	368	356
27	259	165	216	160	169	208	1080	2080	635	729	320	340
28	255	178	208	160	165	182	1150	2500	507	665	340	330
29	219	205	208	160	---	175	1200	2570	488	612	407	335
30	208	192	182	160	---	188	1390	2590	520	548	407	346
31	216	---	195	155	---	169	---	2570	---	488	462	---
TOTAL	8133	5866	6251	5175	4657	5364	15888	45198	52029	18695	13271	11685
MEAN	262	196	202	167	166	173	530	1458	1734	603	428	390
MAX	340	235	227	185	185	208	1390	2590	3270	974	745	494
MIN	208	160	146	155	145	158	155	804	488	340	320	290
AC-FT	16130	11640	12400	10260	9240	10640	31510	89650	103200	37080	26320	23180

CAL YR 1980 TOTAL 378646 MEAN 1035 MAX 7250 MIN 146 AC-FT 751000
WTR YR 1981 TOTAL 192212 MEAN 527 MAX 3270 MIN 145 AC-FT 381300

08220500 PINOS CREEK NEAR DEL NORTE, CO

LOCATION.--Lat 37°35'30", long 106°26'58", in SW¼SE¼ sec.29, T.39 N., R.5 E., Rio Grande County, Hydrologic Unit 13010002, on left bank 90 ft (27 m) downstream from Bennett Creek and 8.0 mi (12.9 km) southwest of Del Norte.

DRAINAGE AREA.--53 mi^2 (140 km^2), approximately.

PERIOD OF RECORD.--April 1919 to September 1924, May 1936 to current year. No winter records prior to 1950 except water years 1941, 1944-47. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1922(M), 1941(M). WSP 1923: 1960(M).

GAGE.--Water-stage recorder and rectangular box flume. Altitude of gage is 8,480 ft (2,585 m), from topographic map. May 1, 1919, to Sept. 30, 1924, nonrecording gages at sites about 1,000 ft (300 m) downstream at different datum.

REMARKS.--Records good except those for period of no gage-height record, which are poor. One small diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--37 years (water years 1941, 1944-47, 1950-81), 23.6 ft^3/s (0.668 m^3/s), 17,100 acre-ft/yr (21.1 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, occurred June 3, 1922, caused by failure of private fish-lake dam; maximum discharge determined, 720 ft^3/s (20.4 m^3/s) Aug. 3, 1936, gage height, 4.19 ft (1.277 m), by slope-area measurement of peak flow; minimum daily, 0.40 ft^3/s (0.011 m^3/s) Jan. 6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 3, 1922, exceeded all other observed floods at this location since at least 1903, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 52 ft^3/s (1.47 m^3/s) at 0230 May 2, gage height, 0.98 ft (0.299 m), no peak above base of 120 ft^3/s (3.4 m^3/s); minimum daily, 3.0 ft^3/s (0.085 m^3/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	6.7	5.0	5.0	4.0	5.0	6.0	35	28	14	17	9.6
2	5.0	6.4	5.0	5.0	4.0	5.0	6.0	41	28	15	15	8.3
3	5.0	6.7	5.0	5.0	4.5	5.0	5.3	44	28	12	14	7.9
4	5.0	6.7	5.0	5.0	4.5	4.5	5.3	34	27	11	15	8.3
5	5.0	6.7	5.5	5.0	4.5	4.5	5.0	29	27	8.7	12	10
6	5.0	6.7	5.5	4.5	4.5	5.0	7.1	27	34	7.9	11	9.6
7	5.0	6.7	5.0	4.5	4.5	4.5	7.1	24	34	8.3	10	19
8	4.7	6.7	4.5	4.0	4.5	4.0	8.7	19	31	12	12	14
9	4.7	6.4	4.0	4.0	4.5	4.0	8.7	16	31	28	14	13
10	4.7	6.7	4.5	4.5	4.0	4.0	9.6	16	29	19	14	12
11	4.7	6.4	5.0	4.5	3.0	4.0	10	16	28	20	20	12
12	4.7	6.7	5.5	4.5	3.5	4.0	10	16	26	21	21	16
13	4.7	6.7	5.5	4.5	4.0	4.0	9.1	16	25	14	14	13
14	5.0	6.0	5.5	4.0	4.5	4.0	8.3	16	23	14	12	12
15	6.7	4.7	5.5	3.5	5.0	4.0	9.6	19	22	19	12	12
16	5.0	5.5	6.0	3.5	5.0	4.0	11	17	19	14	13	14
17	6.0	5.5	6.0	4.0	5.0	4.1	13	16	18	22	14	12
18	5.0	5.0	6.0	4.5	5.0	4.1	14	15	16	18	14	11
19	5.3	5.0	5.5	4.5	5.5	4.1	14	17	12	18	12	10
20	5.3	4.5	5.5	4.5	5.5	4.1	15	18	12	14	11	10
21	5.6	4.5	5.0	4.5	5.0	4.1	15	18	11	13	11	13
22	5.3	4.5	5.0	4.5	4.5	4.4	16	17	11	12	12	13
23	5.0	5.0	5.0	5.0	4.5	4.4	16	18	10	12	10	14
24	4.4	5.5	4.5	5.0	5.0	4.7	20	18	10	30	9.1	16
25	6.0	5.0	5.0	4.5	5.0	5.0	22	18	9.6	18	9.1	14
26	7.1	5.0	5.5	4.5	5.0	5.3	24	21	12	19	8.7	12
27	6.7	4.5	5.5	4.5	4.5	4.7	23	23	10	23	8.7	12
28	6.4	4.5	5.0	4.5	4.5	4.7	23	26	9.6	18	10	10
29	7.1	5.0	5.0	4.5	---	5.6	24	24	15	16	9.6	8.7
30	7.5	5.0	4.5	4.5	---	5.3	31	28	18	14	9.6	9.1
31	7.1	---	5.0	4.0	---	5.0	---	28	---	15	10	---
TOTAL	169.7	170.9	160.0	138.5	127.5	139.1	396.8	690	614.2	499.9	384.8	355.5
MEAN	5.47	5.70	5.16	4.47	4.55	4.49	13.2	22.3	20.5	16.1	12.4	11.9
MAX	7.5	6.7	6.0	5.0	5.5	5.6	31	44	34	30	21	19
MIN	4.4	4.5	4.0	3.5	3.0	4.0	5.0	15	9.6	7.9	8.7	7.9
AC-FT	337	339	317	275	253	276	787	1370	1220	992	763	705

CAL YR 1980 TOTAL 9933.3 MEAN 27.1 MAX 202 MIN 4.0 AC-FT 19700
WTR YR 1981 TOTAL 3846.9 MEAN 10.5 MAX 44 MIN 3.0 AC-FT 7630

NOTE.--NO GAGE-HEIGHT RECORD NOV. 18 TO MAR. 16.

08224110 SAN LUIS CREEK NEAR PONCHA PASS, CO

LOCATION.--Lat 38°24'22", long 106°03'49", in NE¼NE¼ sec.22, T.48 N., R.8 E., Saguache County, Hydrologic Unit 13010003, on right bank 0.1 mi (0.2 km) east of U.S. Highway 285, 0.5 mi (0.8 km) upstream from Round Hill Gulch, 1.3 mi (2.1 km) downstream from Dorsey Creek, and 1.7 mi (2.7 km) southeast of Poncha Pass.

DRAINAGE AREA.--6.57 mi^2 (17.02 km^2).

PERIOD OF RECORD.--June 1979 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 8,780 ft (2,676 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8.2 ft^3/s (0.23 m^3/s) May 22, 1980, gage height, 1.16 ft (0.354 m); maximum gage height, 1.20 ft (0.366 m) Feb. 12, 1981, due to backwater from ice; minimum daily, 0.03 ft^3/s (0.001 m^3/s) Aug. 8, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3.0 ft^3/s (0.085 m^3/s) at 1915 Apr. 9, gage height, 0.76 ft (0.232 m); maximum gage height, 1.20 ft (0.366 m) at 2215 Feb. 12 (backwater from ice); no peak above base of 5.0 ft^3/s (0.14 m^3/s); minimum daily discharge, 0.03 ft^3/s (0.001 m^3/s) Aug. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.62	1.4	1.2	1.0	.65	1.0	1.6	1.4	.71	.45	.20	.32
2	.63	1.4	1.1	.95	.65	.92	1.6	1.4	.57	.55	.18	.26
3	.66	1.4	1.0	.90	.65	.90	1.5	1.6	.85	.32	.18	.26
4	.67	1.4	.95	.90	.70	.80	1.5	1.4	1.1	.23	.20	.36
5	.65	1.5	.97	.90	.80	1.3	1.7	1.3	.80	.16	.14	.32
6	.66	1.5	.97	.90	.80	.95	1.9	1.4	.78	.14	.08	.40
7	.72	1.5	.97	.85	.80	.82	1.8	1.1	.68	.23	.06	.60
8	.70	1.5	.97	.80	.80	.80	1.7	.99	.58	.36	.03	.60
9	.70	1.4	.89	.80	.75	1.2	1.9	.99	.50	.32	.18	.55
10	.70	1.5	.81	.75	.65	.80	2.1	1.0	.48	.36	.23	.55
11	.70	1.6	.80	.75	.60	.85	2.0	1.0	.55	.45	.75	.50
12	.70	1.4	.80	.70	.70	.87	1.9	.95	.45	.36	.70	.60
13	.71	1.5	.85	.70	.80	1.0	1.7	.90	.40	.60	.80	.55
14	.77	1.4	.82	.70	.90	.85	1.7	.87	.40	.45	.55	.50
15	1.3	1.4	.83	.70	1.0	.93	1.8	1.0	.45	.36	.65	.50
16	1.0	1.6	.84	.70	1.0	1.0	1.8	1.2	.55	.32	.50	.45
17	.97	1.8	.73	.70	1.1	.90	1.9	1.1	.55	.75	.45	.45
18	.90	2.0	.70	.80	1.2	.91	1.8	.93	.50	.75	.40	.45
19	1.0	1.9	.70	.90	1.2	1.4	1.9	.98	.50	.60	.36	.45
20	1.1	1.6	.70	.90	1.2	.97	1.8	.88	.45	.23	.36	.45
21	1.0	1.6	.70	.90	1.1	1.2	1.5	.88	.40	.16	.40	.45
22	1.0	1.4	.70	.90	1.0	1.3	1.5	.83	.26	.16	.50	.45
23	.96	2.0	.70	.90	1.1	1.2	1.4	.87	.23	.26	.45	.45
24	.80	2.5	.75	.85	1.1	1.1	1.5	.96	.32	.50	.45	.45
25	1.1	2.5	.80	.80	1.2	1.4	1.5	.97	.45	.89	.55	.45
26	1.2	2.0	.90	.80	1.2	1.4	1.5	1.0	.80	.95	.40	.40
27	1.1	1.7	.95	.80	1.1	1.3	1.4	.83	.50	.75	.45	.40
28	1.1	1.4	1.0	.75	1.1	1.2	1.3	.67	.45	.36	.45	.40
29	1.3	1.1	.99	.70	---	1.5	1.4	.66	.60	.26	.40	.40
30	1.6	1.1	1.0	.65	---	1.4	1.4	.86	.45	.18	.32	.36
31	1.5	---	1.0	.65	---	1.4	---	.72	---	.20	.36	---
TOTAL	28.52	48.0	27.09	25.00	25.85	33.57	50.0	31.64	16.31	12.66	11.73	13.33
MEAN	.92	1.60	.87	.81	.92	1.08	1.67	1.02	.54	.41	.38	.44
MAX	1.6	2.5	1.2	1.0	1.2	1.5	2.1	1.6	1.1	.95	.80	.60
MIN	.62	1.1	.70	.65	.60	.80	1.3	.66	.23	.14	.03	.26
AC-FT	57	95	54	50	51	67	99	63	32	25	23	26

CAL YR 1980 TOTAL 518.49 MEAN 1.42 MAX 7.8 MIN .35 AC-FT 1030
WTR YR 1981 TOTAL 323.70 MEAN .89 MAX 2.5 MIN .03 AC-FT 642

08224113 SAN LUIS CREEK NEAR VILLA GROVE, CO

LOCATION.--Lat 38°24'04", long 106°03'51", in SE¼NE¼ sec.22, T.47 S., R.8 E., Saguache County, Hydrologic Unit 13010003, on right bank 600 ft (183 m) east of U.S. Highway 285, 0.2 mi (0.3 km) upstream from Round Hill Gulch, 1.1 mi (1.8 km) upstream from Lone Tree Creek, and 11.3 mi (18.2 km) northwest of Villa Grove.

DRAINAGE AREA.--11.2 mi² (29.0 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1979 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 8,710 ft (2,655 m), from topographic map.

REMARKS.--Records good except those Sept. 10 to Dec. 5, 1979, which are fair, and those Dec. 6, 1979 to Apr. 26, 1980, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7.8 ft³/s (0.22 m³/s) May 24, 1980, gage height, 1.33 ft (0.405 m); minimum daily, 0.17 ft³/s (0.005 m³/s) Aug. 5-6, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1.6 ft³/s (0.045 m³/s) at 1400 June 3, gage height, 0.77 ft (0.235 m), no peak above base of 5 ft³/s (0.14 m³/s); minimum daily, 0.17 ft³/s (0.005 m³/s) Aug. 5-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.65	1.2	.94	.68	.65	1.0	1.5	1.4	1.4	.48	.32	.27
2	.65	1.1	.88	.66	.65	.95	1.5	1.4	1.2	.64	.27	.23
3	.65	1.1	.86	.76	.65	.90	1.5	1.4	1.4	.43	.25	.21
4	.68	1.1	.86	.99	.70	.85	1.6	1.4	1.5	.35	.25	.25
5	.70	1.1	.86	.91	.80	1.3	1.7	1.4	1.3	.29	.17	.27
6	.70	1.0	.86	.90	.80	1.0	1.9	1.3	1.2	.27	.17	.32
7	.70	1.0	.86	.85	.80	.85	1.8	1.3	1.0	.32	.19	.58
8	.70	1.0	.86	.80	.80	.85	1.8	1.3	.79	.42	.21	.63
9	.70	.97	.85	.80	.75	1.1	1.9	1.3	.73	.38	.41	.57
10	.72	1.0	.72	.80	.70	.90	2.0	1.2	.68	.43	.47	.51
11	.75	1.1	.69	.75	.65	.85	2.0	1.2	.64	.50	.81	.44
12	.75	1.0	.70	.75	.70	.90	1.9	1.2	.55	.45	.74	.61
13	.75	1.1	.70	.70	.80	1.0	1.8	1.2	.50	.60	.64	.44
14	.76	.94	.67	.70	.90	.90	1.7	1.2	.46	.50	.44	.41
15	1.5	.92	.67	.70	1.1	.95	1.7	1.2	.52	.43	.49	.38
16	1.2	1.4	.69	.70	1.1	1.0	1.8	1.2	.55	.40	.40	.36
17	1.1	1.6	.62	.75	1.2	.95	1.9	1.2	.49	.70	.38	.34
18	1.1	2.4	.71	.80	1.2	.95	1.8	1.2	.46	.74	.34	.34
19	1.0	2.2	.82	.85	1.2	1.1	1.8	1.1	.44	.61	.25	.35
20	1.1	1.6	.93	.90	1.2	1.2	1.8	1.2	.39	.32	.27	.36
21	1.1	1.7	.82	.90	1.2	1.2	1.7	1.2	.32	.23	.27	.33
22	1.1	1.8	.76	.90	1.1	1.2	1.6	1.2	.32	.25	.37	.34
23	.97	2.0	.68	.90	1.1	1.2	1.6	1.2	.32	.34	.33	.43
24	.75	3.0	.82	.85	1.1	1.3	1.5	1.2	.34	.53	.36	.41
25	1.0	3.0	.82	.80	1.2	1.3	1.5	1.3	.39	.80	.48	.41
26	1.1	2.6	.74	.80	1.2	1.3	1.4	1.2	.70	.92	.30	.41
27	1.1	1.8	.79	.80	1.1	1.4	1.4	1.2	.51	.78	.30	.41
28	1.1	1.6	.76	.75	1.1	1.4	1.4	1.2	.46	.40	.33	.41
29	1.1	1.2	.71	.70	---	1.4	1.4	1.2	.58	.35	.29	.41
30	1.3	1.0	.85	.65	---	1.5	1.4	1.4	.51	.29	.27	.38
31	1.2	---	.83	.65	---	1.5	---	1.4	---	.29	.27	---
TOTAL	28.68	44.53	24.33	24.45	26.45	34.20	50.3	39.0	20.65	14.44	11.04	11.81
MEAN	.93	1.48	.78	.79	.94	1.10	1.68	1.26	.69	.47	.36	.39
MAX	1.5	3.0	.94	.99	1.2	1.5	2.0	1.4	1.5	.92	.81	.63
MIN	.65	.92	.62	.65	.65	.85	1.4	1.1	.32	.23	.17	.21
AC-FT	57	88	48	48	52	68	100	77	41	29	22	23

CAL YR 1980 TOTAL 525.83 MEAN 1.44 MAX 7.8 MIN .40 AC-FT 1040
WTR YR 1981 TOTAL 329.88 MEAN .90 MAX 3.0 MIN .17 AC-FT 654

NOTE.--NO GAGE-HEIGHT RECORD JAN. 6 TO MAY 17.

CLOSED BASIN IN SAN LUIS VALLEY, CO

08224500 KERBER CREEK AT ASHLEY RANCH, NEAR VILLA GROVE, CO

LOCATION.--Lat 38°14'28", long 106°06'57", in SW¼NW¼ sec.17, T.46 N., R.8 E., Saguache County, Hydrologic Unit 13010003, on left bank at Ashley Ranch, 4.5 mi (7.2 km) upstream from Little Kerber Creek, and 9 mi (14 km) west of Villa Grove.

DRAINAGE AREA.--38 mi² (98 km²), approximately.

PERIOD OF RECORD.--June 1923 to September 1926 (published as Kerber Creek near Villa Grove), May 1936 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1937-38. WSP 1512: 1943.

GAGE.--Water-stage recorder. Altitude of gage is 8,830 ft (2,691 m), from topographic map. Prior to Dec. 10, 1963, at site 150 ft (46 m) upstream at datum 1.50 ft (0.457 m) higher.

REMARKS.--Records good except those for period of no gage-height record and those for winter period, which are poor. No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--48 years (water years 1924-26, 1937-81), 12.4 ft³/s (0.351 m³/s), 8,980 acre-ft/yr (11.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 407 ft³/s (11.5 m³/s) May 14, 1941, gage height, 3.88 ft (1.183 m), site and datum then in use, from rating curve extended above 140 ft³/s (4.0 m³/s); maximum gage height, 5.04 ft (1.536 m), site and datum then in use, May 11, 1947 (backwater from beaver dam); no flow Dec. 30, 1976, to Jan. 31, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1872, that of May 14, 1941, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 66 ft³/s (1.87 m³/s) at 1230 July 15, gage height, 1.92 ft (0.585 m), no peak above base of 70 ft³/s (2.0 m³/s); minimum daily, 0.50 ft³/s (0.014 m³/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	3.8	3.5	2.5	1.5	3.0	4.0	13	12	3.4	3.6	3.1
2	3.1	3.6	3.0	2.5	1.5	3.0	5.0	12	10	5.0	3.6	2.7
3	3.1	3.8	3.5	2.5	1.5	3.0	6.0	14	14	3.6	3.1	2.7
4	3.1	3.6	3.5	2.5	2.0	3.0	5.5	12	14	3.1	2.7	2.5
5	3.1	3.8	4.0	2.5	2.0	3.0	5.0	11	12	2.9	2.5	2.9
6	3.1	3.8	3.5	2.0	2.0	3.0	5.5	11	13	2.5	2.3	2.9
7	3.1	3.8	3.0	1.5	2.0	3.0	6.0	9.7	13	2.5	2.3	4.7
8	3.1	3.8	2.5	1.5	2.0	3.0	6.5	8.1	12	3.8	2.7	6.4
9	2.9	3.6	2.0	1.5	2.0	2.5	7.0	7.7	12	3.4	4.4	5.0
10	2.9	3.4	2.0	1.5	1.0	3.0	8.0	7.3	12	3.1	5.3	4.4
11	2.9	3.6	2.5	1.5	.50	3.5	8.5	7.3	11	7.6	8.1	3.8
12	2.9	3.8	2.5	1.5	1.0	3.5	9.0	7.0	9.3	5.6	7.0	4.1
13	2.9	3.8	3.0	1.0	1.0	3.5	8.5	7.0	8.9	4.4	6.6	4.1
14	2.9	3.4	2.5	1.0	1.0	3.0	8.1	6.0	8.1	5.0	5.3	3.4
15	4.7	1.8	3.0	1.0	2.0	2.5	8.1	6.0	7.3	9.4	5.0	3.1
16	3.6	1.5	3.0	1.0	2.0	2.5	8.5	6.5	6.2	5.6	5.3	2.9
17	3.1	2.0	3.0	1.5	2.0	2.5	8.9	7.5	5.6	4.7	5.6	2.9
18	3.4	2.0	3.0	1.5	2.5	2.5	8.5	7.0	5.0	6.0	5.3	2.9
19	2.9	1.5	2.5	1.5	2.5	2.5	8.9	6.6	4.4	5.0	4.4	2.7
20	2.9	1.5	2.5	1.5	3.0	3.5	8.9	5.9	3.8	4.0	3.8	2.5
21	2.7	1.5	2.5	1.5	2.5	3.0	9.3	5.6	3.8	3.5	3.6	2.5
22	2.7	1.0	3.0	1.5	2.0	3.0	9.7	5.6	3.6	3.1	3.8	2.5
23	2.5	1.5	3.0	1.5	2.5	3.5	10	5.9	3.6	2.7	3.6	2.9
24	2.1	2.0	2.5	2.0	2.5	3.5	12	7.0	3.1	3.1	4.1	3.6
25	2.5	2.5	3.0	2.0	2.5	3.5	12	7.3	3.4	11	4.7	2.9
26	2.9	2.0	3.5	1.5	2.5	3.5	14	7.7	3.8	5.3	3.6	2.7
27	3.6	2.0	3.5	1.5	2.5	4.1	13	8.1	3.8	5.6	3.8	2.5
28	3.8	3.0	3.5	2.0	2.5	4.0	12	8.5	3.6	3.8	3.8	2.3
29	3.8	3.0	3.0	2.5	---	3.0	13	9.3	4.4	3.1	3.4	2.3
30	3.8	3.5	3.0	2.0	---	4.0	12	9.7	3.6	3.1	3.1	2.7
31	3.8	---	3.0	1.5	---	3.5	---	12	---	3.1	2.9	---
TOTAL	97.0	83.9	91.5	53.0	54.50	97.6	261.4	259.3	230.3	138.0	129.3	96.6
MEAN	3.13	2.80	2.95	1.71	1.95	3.15	8.71	8.36	7.68	4.45	4.17	3.22
MAX	4.7	3.8	4.0	2.5	3.0	4.1	14	14	14	11	8.1	6.4
MIN	2.1	1.0	2.0	1.0	.50	2.5	4.0	5.6	3.1	2.5	2.3	2.3
AC-FT	192	166	181	105	108	194	518	514	457	274	256	192

CAL YR 1980 TOTAL 6167.40 MEAN 16.9 MAX 133 MIN 1.0 AC-FT 12230
WTR YR 1981 TOTAL 1592.40 MEAN 4.36 MAX 14 MIN .50 AC-FT 3160

NOTE.--NO GAGE-HEIGHT RECORD NOV. 18 TO APR. 6.

08226600 NOLAND GULCH TRIBUTARY RESERVOIR INFLOW NEAR VILLA GROVE, CO

LOCATION.--Lat 38°12'34", long 105°57'40", in NW¼SE¼ sec.27, T.46 N., R.9 E., Saguache County, Hydrologic Unit 13010003, on left bank at inflow site to a small channel reservoir 500 ft (152 m) upstream from dam, 1.2 mi (1.9 km) west along Bureau of Land Management road exiting U.S. Highway 285, and 2.7 mi (4.3 km) south of Villa Grove.

DRAINAGE AREA.--0.08 mi² (0.21 km²).

PERIOD OF RECORD.--June 1979 to current year (seasonal record only).

GAGE.--Water-stage recorder and Parshall Flume. Altitude of gage is 8,000 ft (2,438 m) from topographic map.

REMARKS.--Records good. Recording rain gage in basin upstream. This station is designed to evaluate rainfall runoff from a small drainage area into a small channel reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1.4 ft³/s (0.040 m³/s) July 26, 1981, gage height, 3.50 ft (1.067 m); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1.4 ft³/s (0.040 m³/s) at 0800 July 26, gage height, 3.50 ft (1.067 m); no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981 (SEASONAL RECORD)
MEAN VALUES

JULY 26 0.04 AUG. 7 0.01

WTR YR 1981 TOTAL 0.05 MEAN 0.000 MAX 0.04 MIN 0.00 AC-FT 0.1

CLOSED BASIN IN SAN LUIS VALLEY, CO

08227000 SAGUACHE CREEK NEAR SAGUACHE, CO

LOCATION.--Lat 38°09'48", long 106°17'24", in SE¼SE¼ sec.10, T.45 N., R.6 E., Saguache County, Hydrologic Unit 13010004, on left bank 0.2 mi (0.3 km) downstream from Middle Creek and 10 mi (16 km) northwest of Saguache.

DRAINAGE AREA.--595 mi^2 (1,541 km^2).

PERIOD OF RECORD.--August 1910 to September 1912, June 1914 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1242: 1948-49. WSP 1312: 1912, 1934(M), 1942(M). WSP 1923: 1951.

GAGE.--Water-stage recorder. Altitude of gage is about 8,030 ft (2,448 m), from topographic map. Prior to Apr. 9, 1934, at sites 0.8 mi (1.3 km) downstream at different datums. Apr. 10, 1934, to Nov. 20, 1966, at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions from Colorado River basin to drainage area above station through Tarbell ditch (see elsewhere in this report), and diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--69 years (water years 1911-12, 1915-81), 67.5 ft^3/s (1.912 m^3/s), 48,900 acre-ft/yr (60.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 790 ft^3/s (22.4 m^3/s) Aug. 3, 1964, gage height, 3.85 ft (1.173 m), present datum, from rating curve extended above 83 ft^3/s (2.4 m^3/s); maximum gage height, 3.94 ft (1.201 m) May 20, 1970; minimum daily discharge, 7.0 ft^3/s (0.20 m^3/s) Jan. 7, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 84 ft^3/s (2.38 m^3/s) at 1900 June 4, gage height, 1.86 ft (0.567 m), no peak above base of 210 ft^3/s (5.9 m^3/s), maximum gage height, 2.18 ft (0.664 m) at 1730 Feb. 14 (backwater from ice); minimum daily discharge, 9.1 ft^3/s (0.26 m^3/s) June 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	27	18	15	19	26	17	34	57	29	43	44
2	25	27	16	16	18	26	20	38	51	43	43	36
3	25	26	18	15	19	26	26	45	51	39	41	29
4	25	26	18	15	21	25	20	50	78	34	37	31
5	24	29	20	16	21	25	16	42	60	26	30	34
6	26	28	19	14	21	24	21	41	68	22	27	36
7	26	29	17	13	21	23	25	37	73	19	27	45
8	26	28	15	15	20	25	27	33	63	24	30	50
9	26	26	13	14	22	22	28	32	57	34	32	46
10	26	26	12	14	19	23	39	30	51	32	36	48
11	26	26	14	14	16	27	46	30	53	46	45	53
12	26	28	15	14	19	27	49	29	47	53	56	52
13	26	29	16	13	19	27	47	30	41	51	49	50
14	27	26	14	12	20	24	45	28	33	47	43	51
15	36	15	15	13	23	21	46	28	31	60	42	42
16	35	13	16	14	23	21	49	31	27	58	39	37
17	29	15	16	16	23	22	44	35	26	51	41	39
18	31	15	16	20	24	20	47	32	23	67	37	37
19	29	14	15	19	24	20	46	32	18	58	34	36
20	28	13	14	20	26	26	44	30	16	46	31	35
21	29	14	14	20	23	22	42	28	15	39	31	35
22	29	11	15	20	21	21	40	28	11	33	35	36
23	29	13	15	21	23	26	38	29	10	37	40	36
24	19	13	14	23	24	27	41	33	11	40	33	40
25	18	14	15	22	24	26	42	34	9.1	48	34	39
26	26	13	16	19	24	28	45	36	16	56	32	36
27	35	13	17	20	22	33	45	35	19	69	35	35
28	27	16	17	22	23	20	44	38	15	59	36	34
29	20	16	17	25	---	12	37	41	29	46	35	35
30	21	18	15	22	---	18	33	44	37	41	34	35
31	27	---	16	19	---	14	---	47	---	41	41	---
TOTAL	826	607	488	535	602	727	1109	1080	1096.1	1348	1149	1192
MEAN	26.6	20.2	15.7	17.3	21.5	23.5	37.0	34.8	36.5	43.5	37.1	39.7
MAX	36	29	20	25	26	33	49	50	78	69	56	53
MIN	18	11	12	12	16	12	16	28	9.1	19	27	29
AC-FT	1640	1200	968	1060	1190	1440	2200	2140	2170	2670	2280	2360

CAL YR 1980 TOTAL 23386.0 MEAN 63.9 MAX 323 MIN 11 AC-FT 46390
WTR YR 1981 TOTAL 10759.1 MEAN 29.5 MAX 78 MIN 9.1 AC-FT 21340

08227300 ANACONDA RESERVOIR NEAR VILLA GROVE, CO

LOCATION.--Lat 38°08'48", long 106°00'36", in SW¼SW¼ sec.17, T.45 N., R.9 E., Saguache County, Hydrologic Unit 13010004, on top of earthfill dam near center, 0.4 mi (0.6 km) upstream from Stonehouse Gulch, 0.5 mi (0.8 km) upstream from Big Hollow Gulch, 1.5 mi (2.4 km) north of junction of Bureau of Land Management road and U.S. Highway 285 and 7.7 mi (12.4 km) south of Villa Grove.

DRAINAGE AREA.--0.17 mi² (0.44 km²).

PERIOD OF RECORD.--June 1979 to current year (seasonal record only).

GAGE.--Water-stage recorder. Altitude of gage is 8,025 ft (2,446 m), from topographic map.

REMARKS.--Records good. Reservoir is formed by an earthfill dam. Storage occurs intermittenly from storm runoff. Maximum storage is 4.97 acre-feet (6,130 m³) at a spillway gage height of 13.3 ft (4.05 m). No contents occur at a gage height of 3.34 ft (1.018 m). This dam forms a small channel reservoir for controlling heavy runoff and to help control sedimentation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 0.18 acre-ft (222 m³) July 16, 1979, gage height, 5.50 ft (1.676 m); no contents most of time.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 0.16 acre-ft (197 m³) Sept. 24, gage height, 5.37 ft (1.637 m); no contents most of time.

Capacity table (elevation, in feet, and total contents, in acre-feet)

3.3	0
5.6	0.20

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	0	0	.00	.00	.00
2							---	0	0	.00	.00	.00
3							---	0	0	.00	.00	.00
4							---	0	0	.00	.00	.00
5							---	0	0	.00	.00	.00
6							---	0	0	.00	.00	.00
7							---	0	0	.00	.00	.00
8							---	0	0	.00	.05	.00
9							---	0	0	.00	.07	.00
10							---	0	0	.00	.06	.00
11							---	0	0	.00	.06	.00
12							---	0	0	.00	.04	.00
13							---	0	0	.00	.04	.00
14							---	0	0	.02	.00	.00
15							---	0	0	.01	.00	.00
16							---	0	0	.01	.00	.00
17							0	0	0	.00	.00	.00
18							0	0	0	.00	.00	.00
19							0	0	0	.00	.00	.00
20							0	0	0	.00	.00	.00
21							0	0	0	.00	.00	.00
22							0	0	0	.00	.00	.00
23							0	0	0	.00	.00	.00
24							0	0	0	.05	.00	.16
25							0	0	0	.04	.00	.09
26							0	0	0	.03	.00	.08
27							0	0	0	.02	.00	.07
28							0	0	0	.01	.00	.05
29							0	0	0	.00	.00	.03
30							0	0	0	.00	.00	.02
31							---	0	---	.00	.00	---
MAX							---	.00	.00	.05	.07	.16
MIN							---	.00	.00	.00	.00	.00

08227400 TRACY PIT RESERVOIR INFLOW NEAR SAGUACHE, CO

LOCATION.--Lat 38°02'44", long 106°13'06", in SE¼SE¼ sec.20, T.44 N., R.7 E., Saguache County, Hydrologic Unit 13010004, on left bank 0.5 mi (0.8 km) upstream from mouth at North Tracy Canyon, 5.1 mi (8.2 km) southwest of Saguache, and 5.4 mi (8.7 km) northwest of U.S. Highway 285 at Swede Corners.

DRAINAGE AREA.--0.05 mi^2 (0.13 km^2).

PERIOD OF RECORD.--June 1979 to current year (seasonal record only).

GAGE.--Water-stage recorder and Parshall Flume. Altitude of gage is 8,190 ft (2,496 m) from topographic map.

REMARKS.--Records good. Recording rain gage in basin upstream. This station is designed to evaluate rainfall runoff from a small drainage area into a small channel reservoir.

EXTREMES FOR PERIOD OF RECORD.--No flow for 1979-81.

CLOSED BASIN IN SAN LUIS VALLEY, CO

08227500 NORTH CRESTONE CREEK NEAR CRESTONE, CO

LOCATION.--Lat 38°00'49", long 105°41'32", Saguache County, Hydrologic Unit 13010003, on right bank in canyon, 1.5 mi (2.4 km) northeast of Crestone, and 3.2 mi (5.1 km) upstream from South Crestone Creek.

DRAINAGE AREA.--10.7 mi^2 (27.7 km^2).

PERIOD OF RECORD.--May 1936 to current year (no winter records prior to 1948).

GAGE.--Water-stage recorder. Altitude of gage is 8,360 ft (2,548 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--34 years (water years 1948-81), 11.0 ft^3/s (0.312 m^3/s), 7,970 acre-ft/yr (9.83 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 735 ft^3/s (20.8 m^3/s) Aug. 6, 1936, gage height, 4.33 ft (1.320 m), from rating curve extended above 160 ft^3/s (4.5 m^3/s), on basis of slope-area measurement of peak flow; minimum daily recorded, 0.4 ft^3/s (0.011 m^3/s) Apr. 3, 1945.

Stage and discharge of the flood of Aug. 6, 1936, are the greatest since October 1911, from information by local residents.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of October 1911 is the greatest probably since at least 1884.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 58 ft^3/s (1.64 m^3/s) at 2130 June 7, gage height, 1.98 ft (0.604 m), no peak above base of 60 ft^3/s (1.7 m^3/s); minimum daily, 1.0 ft^3/s (0.028 m^3/s) Feb. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	3.3	2.0	2.0	1.5	2.5	2.6	25	38	13	9.2	11
2	4.2	3.3	1.5	1.8	1.0	2.5	2.6	23	38	14	8.8	9.6
3	4.2	3.3	2.0	1.8	1.5	2.5	2.6	31	39	14	8.4	9.2
4	4.2	3.0	2.0	1.8	2.0	2.0	2.4	28	33	13	7.6	8.8
5	4.2	3.0	2.5	1.8	2.0	2.0	2.0	22	34	11	7.2	8.8
6	4.2	3.0	2.5	1.8	2.0	2.0	2.0	19	41	9.6	6.8	8.8
7	4.2	3.0	2.0	1.5	1.5	2.0	2.6	15	47	9.2	7.2	9.2
8	4.2	3.0	2.0	1.5	1.5	2.0	2.6	14	47	8.8	11	9.6
9	4.2	3.0	1.5	1.5	2.0	2.0	3.0	13	46	8.4	14	11
10	4.2	3.0	1.5	1.5	1.5	2.0	4.5	12	41	8.0	16	9.6
11	4.2	2.9	1.5	1.5	1.5	2.5	5.4	12	36	7.6	21	11
12	3.9	2.8	2.0	1.5	1.5	2.0	5.7	11	33	10	29	14
13	3.9	2.8	2.0	1.5	1.5	2.0	5.1	9.6	29	12	27	13
14	3.9	2.6	2.0	1.5	1.5	2.0	4.8	9.6	24	11	23	12
15	4.5	2.6	2.0	1.5	2.0	2.0	4.5	10	20	10	20	12
16	4.2	3.6	2.0	2.0	2.0	2.0	4.8	9.6	18	9.6	22	12
17	4.5	1.8	2.0	2.0	2.0	2.0	7.6	9.6	17	13	28	11
18	4.5	1.5	2.0	2.2	2.0	2.0	9.2	10	16	14	30	11
19	4.2	1.5	2.0	2.0	2.0	1.5	7.2	14	15	12	28	11
20	4.2	1.5	1.5	1.8	2.5	2.0	7.6	18	15	11	25	10
21	4.2	1.5	1.5	2.0	2.0	1.5	6.8	18	15	9.2	22	9.6
22	4.2	1.5	1.5	2.0	1.5	1.5	7.2	16	14	8.4	22	9.2
23	3.9	2.0	1.5	2.0	1.5	1.5	8.8	16	14	8.4	20	9.2
24	3.6	2.5	1.5	2.0	2.0	1.6	12	15	13	7.6	18	10
25	3.6	2.5	2.0	2.0	2.0	1.8	15	17	12	7.6	17	9.6
26	3.9	2.0	2.0	1.5	2.0	2.2	19	20	12	12	15	9.2
27	3.9	1.5	2.0	1.5	2.0	2.4	19	25	11	15	14	8.8
28	3.6	2.0	2.0	2.0	2.0	2.4	20	32	10	13	14	8.4
29	4.2	2.0	2.0	2.0	---	2.6	22	30	13	12	12	8.0
30	3.9	2.0	2.0	2.0	---	2.6	25	34	14	10	12	8.0
31	3.3	---	2.0	2.0	---	2.6	---	41	---	9.6	11	---
TOTAL	126.3	74.0	58.5	55.5	50.0	64.2	243.6	579.4	755	332.0	526.2	302.6
MEAN	4.07	2.47	1.89	1.79	1.79	2.07	8.12	18.7	25.2	10.7	17.0	10.1
MAX	4.5	3.6	2.5	2.2	2.5	2.6	25	41	47	15	30	14
MIN	3.3	1.5	1.5	1.5	1.0	1.5	2.0	9.6	10	7.6	6.8	8.0
AC-FT	251	147	116	110	99	127	483	1150	1500	659	1040	600

CAL YR 1980 TOTAL 4456.0 MEAN 12.2 MAX 132 MIN 1.5 AC-FT 8840
WTR YR 1981 TOTAL 3167.3 MEAN 8.68 MAX 47 MIN 1.0 AC-FT 6280

NOTE.--NO GAGE-HEIGHT RECORD NOV. 25 TO DEC. 29, JAN. 22 TO MAR. 24.

CLOSED BASIN IN SAN LUIS VALLEY, CO

08230500 CARNERO CREEK NEAR LA GARITA, CO

LOCATION.--Lat 37°51'35", long 106°19'08", in SW¼NE¼ sec.28, T.42 N., R.6 E. (projected), Saguache County, Hydrologic Unit 13010004, on left bank 4.5 mi (7.2 km) northwest of La Garita and 6.6 mi (10.6 km) downstream from North Fork.

DRAINAGE AREA.--117 mi² (303 km²).

PERIOD OF RECORD.--April 1919 to current year. No winter records prior to water year 1945 except water years 1926, 1941. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1935 (monthly figures only).

GAGE.--Water-stage recorder. Altitude of gage is 8,150 ft (2,484 m), from topographic map. Prior to Aug. 6, 1925, nonrecording gage or water-stage recorder at site 300 ft (91 m) downstream at different datum. Aug. 6, 1925, to Apr. 20, 1929, nonrecording gage or water-stage recorder at present site at datum 1.00 ft (0.305 m) higher. Apr. 21, 1929, to Nov. 20, 1966, water-stage recorder at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--39 years (water years 1926, 1941, 1945-81), 10.7 ft³/s (0.303 m³/s), 7,750 acre-ft/yr (9.556 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,600 ft³/s (45.3 m³/s) July 21, 1945, gage height, 6.75 ft (2.057 m), present datum, from rating curve extended above 160 ft³/s (4.5 m³/s); no flow for several days during summer months in 1951, 1955-56, 1963, Dec. 21, 1976, to Feb. 15, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30 ft³/s (0.85 m³/s) at 1630 July 11, gage height, 2.36 ft (0.719 m), no peak above base of 110 ft³/s (3.1 m³/s); minimum daily, 0.15 ft³/s (0.004 m³/s) Feb. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	4.0	2.2	2.0	.30	1.7	3.2	5.8	16	3.5	5.2	4.0
2	1.9	3.2	2.3	1.9	.27	1.7	4.2	7.6	9.3	3.3	5.0	3.0
3	2.0	3.2	2.2	1.5	.27	1.5	4.2	8.2	7.6	2.3	4.5	3.2
4	2.0	3.5	2.2	1.5	.21	1.5	3.5	9.0	11	1.9	4.0	6.0
5	1.9	3.8	2.4	1.3	.24	2.2	3.0	6.5	9.0	1.1	3.0	9.4
6	2.0	3.2	2.6	1.1	.21	1.9	4.2	7.2	9.0	.88	2.4	6.2
7	2.2	3.5	2.4	1.1	.18	2.2	5.5	6.2	9.0	.67	1.9	7.9
8	2.3	3.2	2.3	1.0	.15	1.9	7.9	5.2	6.2	1.3	1.6	9.6
9	2.3	2.4	2.0	1.0	.24	2.2	7.9	4.2	5.5	2.0	2.2	10
10	2.3	2.2	2.2	.94	.24	1.7	9.6	4.2	4.8	4.0	3.8	9.0
11	2.3	2.2	2.2	1.0	.30	1.7	11	3.8	4.2	4.8	8.7	7.6
12	2.3	2.4	2.2	1.0	.50	2.2	10	4.0	3.2	5.5	9.0	8.2
13	2.4	2.4	2.2	.82	.58	2.2	10	4.2	2.8	9.7	7.6	7.2
14	2.6	1.4	2.0	.77	.50	2.0	8.4	4.2	2.8	13	5.5	7.2
15	5.2	1.1	2.3	.82	.46	1.9	9.3	4.8	2.8	10	6.2	6.5
16	4.8	1.0	2.6	.72	.42	2.0	9.7	6.0	2.4	6.8	6.5	6.5
17	3.5	1.0	2.4	.72	.42	2.0	11	5.8	2.3	8.2	6.5	6.0
18	3.2	1.2	2.4	.72	.50	2.0	11	5.8	2.2	9.0	7.2	5.8
19	3.2	1.3	2.4	.67	.54	2.2	10	5.2	1.7	6.0	5.8	5.5
20	3.2	1.4	2.2	.67	.67	2.0	9.6	4.8	1.6	4.2	4.5	5.2
21	3.2	1.5	1.9	.60	.72	2.0	9.0	4.2	1.4	3.8	4.2	5.5
22	3.2	1.5	1.7	.50	.60	2.0	9.0	4.0	1.2	3.2	6.2	5.8
23	3.0	1.4	1.7	.42	.82	2.2	7.9	4.2	1.2	4.5	6.5	5.8
24	2.3	1.5	1.6	.42	1.0	2.5	7.9	5.5	1.2	5.0	4.2	9.6
25	2.4	1.6	1.5	.38	1.3	3.0	8.2	6.5	1.3	5.2	2.6	8.2
26	3.0	1.6	1.5	.35	1.5	3.2	7.6	6.0	4.5	7.7	3.7	6.2
27	3.2	1.8	1.7	.30	1.7	3.8	7.2	5.5	4.8	9.3	4.2	5.5
28	2.8	1.8	2.0	.30	1.6	3.5	6.5	4.8	4.2	6.5	4.2	5.0
29	2.8	2.0	2.0	.30	---	2.2	6.2	4.8	4.5	4.8	4.0	5.0
30	3.8	2.0	1.8	.30	---	2.4	6.0	6.2	7.0	4.0	4.2	5.5
31	4.2	---	2.2	.30	---	2.3	---	11	---	3.8	4.5	---
TOTAL	87.5	64.3	65.3	25.42	16.44	67.8	228.7	175.4	144.7	155.95	149.6	196.1
MEAN	2.82	2.14	2.11	.82	.59	2.19	7.62	5.66	4.82	5.03	4.83	6.54
MAX	5.2	4.0	2.6	2.0	1.7	3.8	11	11	16	13	9.0	10
MIN	1.9	1.0	1.5	.30	.15	1.5	3.0	3.8	1.2	.67	1.6	3.0
AC-FT	174	128	130	50	33	134	454	348	287	309	297	389

CAL YR 1980 TOTAL 4610.60 MEAN 12.6 MAX 113 MIN 1.0 AC-FT 9150
WTR YR 1981 TOTAL 1377.21 MEAN 3.77 MAX 16 MIN .15 AC-FT 2730

NOTE.--NO GAGE-HEIGHT RECORD DEC. 9 TO MAR. 4.

CLOSED BASIN IN SAN LUIS VALLEY, CO

08231000 LA GARITA CREEK NEAR LA GARITA, CO

LOCATION.--Lat 37°48'48", long 106°19'04", in NW¼SE¼ sec.9, T.41 N., R.6 E., Saguache County, Hydrologic Unit 13010004, on right bank 4.5 mi (7.2 km) downstream from Little La Garita Creek and 4.5 mi (7.2 km) southwest of La Garita.

DRAINAGE AREA.--61 mi² (160 km²), approximately.

PERIOD OF RECORD.--April 1919 to current year. No winter records prior to water year 1948 except water years 1926, 1941, 1945-46. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1946(M).

GAGE.--Water-stage recorder. Altitude of gage is 8,030 ft (2,448 m), from topographic map. Apr. 1, 1919, to June 23, 1927, nonrecording gages, and June 24, 1927, to Nov. 13, 1935, water-stage recorder, at sites within 0.2 mi (0.3 km) downstream at different datums. Nov. 14, 1935, to Nov. 16, 1966, water-stage recorder at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for periods of no gage-height record and those for winter period, which are poor. Diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--38 years (water years 1926, 1941, 1945-46, 1948-81), 12.5 ft³/s (0.354 m³/s), 9,060 acre-ft/yr (11.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 530 ft³/s (15.0 m³/s) July 9, 1957, gage height, 4.00 ft (1.219 m), present datum, from rating curve extended above 140 ft³/s (4.0 m³/s); minimum daily recorded, 0.2 ft³/s (0.006 m³/s) Sept. 28, 29, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 58 ft³/s (1.64 m³/s) at 0500 July 15, gage height, 2.78 ft (0.847 m), no peak above base of 80 ft³/s (2.3 m³/s); minimum daily, 1.0 ft³/s (0.028 m³/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	4.7	3.0	3.8	1.5	3.5	2.9	6.6	16	5.6	8.5	8.5
2	3.6	4.7	2.5	3.4	1.5	3.5	4.4	7.3	10	7.3	8.5	6.2
3	3.6	4.7	3.0	2.9	1.5	3.5	5.0	9.5	10	7.0	10	7.7
4	3.6	4.7	3.0	3.1	2.0	3.0	3.6	8.1	14	4.7	10	9.5
5	3.6	5.0	3.5	3.6	2.0	3.0	3.4	6.6	11	3.6	6.2	12
6	3.6	4.4	2.5	2.5	2.0	2.5	4.4	7.0	13	3.1	5.0	9.5
7	3.6	4.4	2.0	2.0	2.0	2.1	6.2	8.5	11	3.1	4.1	23
8	3.6	4.1	1.5	2.5	1.5	2.5	6.2	6.2	8.5	7.0	4.4	15
9	3.6	3.8	1.5	2.0	2.0	2.0	6.6	5.3	7.7	7.0	5.3	17
10	3.6	4.1	1.5	2.0	1.5	3.0	10	5.9	7.0	9.5	5.6	20
11	3.4	3.8	2.0	2.0	1.0	3.8	13	5.6	6.6	6.6	13	16
12	3.4	4.4	2.5	2.0	1.5	3.1	15	5.3	5.9	6.6	17	21
13	3.4	4.1	3.0	2.0	1.5	2.9	12	5.6	5.6	6.6	10	16
14	3.6	2.9	2.5	1.5	1.5	2.9	9.0	6.6	5.3	10	7.3	15
15	5.3	1.9	3.0	1.5	2.0	2.9	7.3	6.2	5.3	28	7.7	13
16	3.4	1.9	3.5	1.5	2.0	3.1	10	7.7	5.3	12	7.3	15
17	3.1	2.0	3.5	2.0	2.0	3.1	13	7.3	5.0	15	7.7	13
18	3.4	2.0	3.5	1.5	2.5	2.7	14	6.6	4.7	16	7.0	12
19	3.6	2.0	3.0	1.5	2.5	2.7	12	6.2	4.4	11	6.6	12
20	3.8	2.0	2.5	1.5	3.0	3.4	10	5.9	4.1	8.5	6.6	11
21	4.1	2.0	2.5	1.5	2.5	2.3	9.2	6.2	3.8	8.1	6.2	11
22	4.1	1.5	3.0	1.5	2.0	3.4	9.0	6.6	3.4	7.3	13	11
23	3.6	2.0	3.0	1.5	2.5	2.9	8.0	6.2	3.4	9.0	8.5	11
24	2.9	2.0	2.5	2.0	3.0	3.1	9.0	7.0	3.4	9.5	5.9	14
25	3.4	2.5	3.0	2.0	3.0	2.7	9.5	7.7	3.4	10	5.6	12
26	4.4	2.0	3.5	1.5	3.0	3.4	8.5	7.7	7.0	15	8.5	10
27	5.6	2.0	4.0	1.5	2.5	4.1	7.7	6.6	5.3	15	8.1	9.0
28	3.1	2.5	4.0	2.0	3.0	2.9	7.3	6.2	4.4	8.5	11	8.5
29	3.4	2.5	4.0	2.5	---	2.7	7.3	6.2	4.7	6.6	13	8.1
30	4.1	3.0	3.8	2.0	---	3.6	7.0	10	4.7	6.2	15	8.5
31	5.0	---	4.1	1.5	---	3.1	---	12	---	6.6	13	---
TOTAL	116.1	93.6	90.4	64.3	58.5	93.4	250.5	216.4	203.9	280.0	265.6	375.5
MEAN	3.75	3.12	2.92	2.07	2.09	3.01	8.35	6.98	6.80	9.03	8.57	12.5
MAX	5.6	5.0	4.1	3.8	3.0	4.1	15	12	16	28	17	23
MIN	2.9	1.5	1.5	1.5	1.0	2.0	2.9	5.3	3.4	3.1	4.1	6.2
AC-FT	230	186	179	128	116	185	497	429	404	555	527	745

CAL YR 1980 TOTAL 5119.0 MEAN 14.0 MAX 125 MIN 1.5 AC-FT 10150
WTR YR 1981 TOTAL 2108.2 MEAN 5.78 MAX 28 MIN 1.0 AC-FT 4180

NOTE.--NO GAGE-HEIGHT RECORD NOV. 17 TO DEC. 29, JAN. 6 TO MAR. 5.

08236000 ALAMOSA CREEK ABOVE TERRACE RESERVOIR, CO

LOCATION.--Lat 37°22'29", long 106°20'03", in NW¼NE¼ sec.17, T.36 N., R.6 E., Conejos County, Hydrologic Unit 13010002, on left bank 0.8 mi (1.3 km) upstream from high-water line of Terrace Reservoir at elevation 8,568 ft (2,611.5 m), 3.0 mi (4.8 km) downstream from French Creek, and 15 mi (24 km) northwest of Capulin.

DRAINAGE AREA.--107 mi^2 (277 km^2).

PERIOD OF RECORD.--September 1911 to September 1912 (published as Rio Alamosa near Monte Vista), May to June 1914, April 1915 to September 1927, October 1934 to current year. No winter records water years 1919-23. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 898: 1911(M). WSP 1312: 1935(M), 1944(M).

GAGE.--Water-stage recorder. Altitude of gage is 8,600 ft (2,621 m), from topographic map. See WSP 1712 or 1732 for history of changes prior to Oct. 1, 1927.

REMARKS.--Records good except those for winter period, which are poor. No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--55 years (water years 1912, 1916-18, 1924-27, 1935-81), 110 ft^3/s (3.115 m^3/s), 79,700 acre-ft/yr (98.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft^3/s (147 m^3/s) Oct. 5, 1911, gage height, 11.0 ft (3.353 m), site and datum then in use, from floodmark, from rating curve extended above 1,000 ft^3/s (28 m^3/s), on basis of computation of peak flow over dam about 8 mi (13 km) upstream; minimum not determined.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, that of Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 469 ft^3/s (13.3 m^3/s) at 2230 June 7, gage height, 2.54 ft (0.774 m), no peak above base of 670 ft^3/s (19 m^3/s); minimum daily, 8.5 ft^3/s (0.24 m^3/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	18	15	11	9.5	12	13	261	292	83	59	45
2	16	19	15	11	9.5	12	15	296	245	97	52	36
3	16	18	15	11	10	12	15	335	274	78	56	32
4	15	20	15	11	10	11	12	253	200	64	50	31
5	15	19	16	11	11	11	11	214	200	56	38	40
6	15	19	16	10	11	12	13	163	296	49	33	49
7	15	20	15	10	11	11	16	138	340	52	30	66
8	15	20	14	10	11	10	17	119	350	50	31	58
9	15	19	13	10	11	10	19	99	335	117	41	58
10	14	19	14	10	9.5	10	25	102	301	95	43	50
11	14	19	14	10	8.5	11	29	112	274	88	59	46
12	13	20	15	10	9.5	10	31	99	241	102	78	82
13	13	22	15	11	10	9.5	29	87	200	72	56	62
14	16	21	15	10	10	9.5	28	97	169	69	46	58
15	21	15	15	9.5	10	9.5	28	114	138	89	41	52
16	17	14	15	9.5	9.5	9.5	30	91	124	76	45	49
17	16	14	15	10	9.5	9.5	36	80	119	142	58	48
18	16	14	15	10	9.5	8.8	46	72	119	104	48	42
19	17	13	14	10	10	8.8	48	102	108	97	40	40
20	16	13	14	10	11	10	53	112	108	76	36	38
21	17	13	14	10	10	9.5	55	95	104	64	36	35
22	17	13	14	10	10	9.5	62	89	99	55	50	34
23	16	14	14	11	11	11	64	91	89	59	49	33
24	13	15	13	11	11	13	82	95	80	121	36	56
25	14	14	13	11	11	12	110	104	72	106	33	43
26	15	14	14	10	11	15	140	155	91	87	35	41
27	17	13	14	10	11	16	140	208	82	104	33	38
28	16	13	13	10	11	12	163	270	74	82	48	33
29	15	14	13	10	---	12	184	237	91	67	50	32
30	16	15	12	10	---	15	233	253	104	61	45	32
31	18	---	12	10	---	12	---	292	---	55	46	---
TOTAL	486	494	441	318.0	287.0	344.1	1747	4835	5319	2517	1401	1359
MEAN	15.7	16.5	14.2	10.3	10.3	11.1	58.2	156	177	81.2	45.2	45.3
MAX	21	22	16	11	11	16	233	335	350	142	78	82
MIN	13	13	12	9.5	8.5	8.8	11	72	72	49	30	31
AC-FT	964	980	875	631	569	683	3470	9590	10550	4990	2780	2700

CAL YR 1980 TOTAL 42451.0 MEAN 116 MAX 1130 MIN 8.0 AC-FT 84200
WTR YR 1981 TOTAL 19548.1 MEAN 53.6 MAX 350 MIN 8.5 AC-FT 38770

NOTE.--NO GAGE-HEIGHT RECORD DEC. 17 TO MAR. 13.

08238000 LA JARA CREEK AT GALLEGOS RANCH, NEAR CAPULIN, CO

LOCATION.--Lat 37°12'32", long 106°11'16", in NE¼ sec.10, T.34 N., R.7 E., Conejos County, Hydrologic Unit 13010002, on left bank 2.7 mi (4.3 km) downstream from Canyon Del Rancho, 7 mi (11 km) southwest of Capulin, and 16.5 mi (26.5 km) downstream from La Jara Reservoir.

DRAINAGE AREA.--98 mi² (250 km²), approximately.

PERIOD OF RECORD.--April 1916 to November 1917, April 1919 to November 1923, May 1936 to current year. No winter records prior to 1950 except water year 1944. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1242: Drainage area. WSP 1732: 1952.

GAGE.--Water-stage recorder. Altitude of gage is 8,130 ft (2,478 m), from topographic map. Apr. 1, 1916, to Nov. 30, 1917, and Apr. 1, 1919, to Nov. 30, 1923, near present site at different datum.

REMARKS.--Records good except those for period of no gage-height record and those for winter period, which are poor. Small diversions above station for irrigation. Flow regulated by La Jara Reservoir, capacity, 14,040 acre-ft (17.3 hm³). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--33 years (water years 1944, 1950-81), 15.2 ft³/s (0.430 m³/s), 11,010 acre-ft/yr (13.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 653 ft³/s (18.5 m³/s) Apr. 22, 1919, gage height, 3.22 ft (0.981 m), site and datum then in use, Apr. 15, 1937, gage height, 5.94 ft (1.811 m); maximum gage height, 6.12 ft (1.865 m) Aug. 11, 1961; minimum daily discharge, 2.0 ft³/s (0.057 m³/s) Jan. 10, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 83 ft³/s (2.35 m³/s) at 1630 Aug. 11, gage height, 2.97 ft (0.905 m); minimum daily, 2.5 ft³/s (0.071 m³/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	6.4	6.5	4.0	3.0	8.5	8.8	9.8	8.0	5.8	5.6	5.8
2	6.4	6.4	6.5	4.0	3.0	8.5	9.0	9.8	7.8	6.2	5.8	5.8
3	6.4	6.4	6.5	4.0	3.5	8.5	9.0	11	7.5	5.8	5.8	5.8
4	6.4	6.4	6.5	4.0	3.5	8.0	8.5	11	7.5	5.0	5.6	6.2
5	6.4	6.2	7.0	4.0	4.0	8.0	8.2	10	7.0	5.0	5.4	6.0
6	6.4	6.2	7.0	3.5	4.0	9.0	9.0	11	7.2	4.8	5.4	6.0
7	6.4	6.2	6.0	3.5	4.0	8.5	11	9.5	8.2	4.8	5.4	6.2
8	6.4	6.2	5.5	3.5	4.0	8.0	11	8.2	7.0	5.2	5.6	7.0
9	6.6	6.0	5.0	3.5	4.0	8.0	12	8.0	5.8	5.4	8.0	6.8
10	6.6	6.2	5.5	3.5	3.5	8.0	15	7.2	5.6	5.4	6.6	6.6
11	6.6	6.0	5.5	3.5	2.5	9.0	14	6.8	5.4	5.6	16	6.2
12	6.6	6.2	6.0	3.5	4.0	8.5	12	6.8	5.2	7.2	9.2	7.5
13	6.6	5.8	6.0	4.0	5.5	8.0	11	6.8	5.2	7.0	7.0	7.2
14	7.0	5.2	6.0	3.5	5.5	8.0	11	5.6	5.0	5.2	5.8	8.5
15	8.0	5.0	6.0	3.0	5.5	8.0	11	6.8	5.2	5.2	5.6	6.8
16	7.5	5.0	6.0	3.0	5.0	8.0	12	7.8	5.4	5.0	5.6	6.0
17	6.8	5.0	6.0	3.5	5.0	8.0	12	7.5	5.6	6.2	6.0	6.2
18	6.8	5.0	6.0	3.5	5.0	7.5	17	7.2	5.0	12	6.0	6.0
19	7.0	4.5	5.5	3.5	6.0	7.5	15	7.2	4.8	9.0	5.8	6.0
20	6.8	4.5	5.5	3.5	7.0	8.2	15	7.0	4.8	6.2	5.8	6.0
21	6.8	4.5	5.5	3.5	6.5	7.5	14	7.8	4.7	5.0	5.8	6.0
22	6.8	5.0	5.5	3.5	6.5	7.5	13	7.5	4.7	4.8	14	5.6
23	6.8	5.5	5.5	4.0	7.5	8.0	13	7.5	4.8	5.0	8.8	5.6
24	6.6	6.5	5.0	4.0	7.5	8.5	13	7.5	5.0	5.6	6.2	6.0
25	6.6	6.0	5.0	4.0	7.5	8.5	13	7.5	5.0	5.[illegible]	5.8	6.2
26	6.8	6.0	5.5	3.5	7.5	9.0	13	7.8	5.4	5.4	6.2	5.8
27	6.8	5.5	5.5	3.5	7.5	9.8	13	7.8	5.2	6.0	6.2	5.6
28	6.8	5.5	5.0	3.5	7.5	9.0	11	7.8	5.2	5.8	6.4	5.6
29	6.8	6.0	5.0	3.5	---	9.0	11	7.8	5.8	5.4	6.2	5.8
30	6.6	6.5	4.5	3.5	---	9.0	9.8	8.2	6.4	5.2	6.0	5.8
31	6.6	---	4.5	3.5	---	8.2	---	8.0	---	5.4	5.8	---
TOTAL	208.1	171.8	177.0	112.0	145.5	257.7	355.3	251.2	175.4	181.2	209.4	186.6
MEAN	6.71	5.73	5.71	3.61	5.20	8.31	11.8	8.10	5.85	5.85	6.75	6.22
MAX	8.0	6.5	7.0	4.0	7.5	9.8	17	11	8.2	12	16	8.5
MIN	6.4	4.5	4.5	3.0	2.5	7.5	8.2	6.6	4.7	4.8	5.4	5.6
AC-FT	413	341	351	222	289	511	705	498	348	359	415	370

CAL YR 1980 TOTAL 7048.0 MEAN 19.3 MAX 159 MIN 3.5 AC-FT 13980
WTR YR 1981 TOTAL 2431.2 MEAN 6.66 MAX 17 MIN 2.5 AC-FT 4820

NOTE.--NO GAGE-HEIGHT RECORD NOV. 21 TO MAR. 12.

08238350 YELLOW WARBLER RESERVOIR INFLOW NEAR ANTONITO, CO

LOCATION.--Lat 38°06'00", long 106°06'44", in NE¼SE¼ sec.17, T.33 N., R.8 E., Conejos County, Hydrologic Unit 13010002, on left bank, 400 ft (122 m) upstream from Yellow Warbler Dam, 0.4 mi (0.6 km) south of the geologic basin known as The Poso, and 6.0 mi (9.7 km) west of Antonito.

DRAINAGE AREA.--0.18 mi² (0.47 km²).

PERIOD OF RECORD.--June 1979 to current year (seasonal record only).

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 8,380 ft (2,554 m), from topographic map.

REMARKS.--Records good. Recording rain gage in basin upstream. This station is designed to evaluate rainfall runoff from a small drainage area into a small channel reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7.8 ft³/s (0.22 m³/s) June 26, 1981, gage height, 4.19 ft (1.277 m); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7.8 ft³/s (0.22 m³/s) at 1830 June 26, gage height, 4.19 ft (1.277 m); no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981 (SEASONAL RECORD)
MEAN VALUES

JUNE 26	0.22	JULY 9	0.02	JULY 12	0.01	AUG. 8	0.17	AUG. 11	0.13

WTR YR 1981 TOTAL 0.55 MEAN 0.001 MAX 0.22 MIN 0.00 AC-FT 1.1

08238380 TURKEY RESERVOIR INFLOW NEAR CONEJOS, CO

LOCATION.--Lat 37°08'16", long 106°06'41", in SE¼SE¼ sec.32, T.34 N., R.8 E., Conejos County, Hydrologic Unit 13010002, on left bank 300 ft (91 m) upstream from Turkey Dam, 0.4 mi (0.6 km) upstream from mouth at the geologic basin known as The Poso, and 6.2 mi (10.0 km) northwest of Conejos.

DRAINAGE AREA.--0.24 mi^2 (0.62 km^2).

PERIOD OF RECORD.--June 1979 to current year (seasonal record only).

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 8,280 ft (2,524 m), from topographic map.

REMARKS.--Records good. Recording rain gage in basin upstream. This station is designed to evaluate rainfall runoff from small drainage area into a small channel reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7.5 ft^3/s (0.21 m^3/s) Aug. 11, 1981, gage height, 4.16 ft (1.268 m); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7.5 ft^3/s (0.21 m^3/s) at 1315 Aug. 11, gage height, 4.16 ft (1.268 m); no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981 (SEASONAL RECORD)
MEAN VALUES

JULY 17 0.01 AUG. 11 0.20

WTR YR 1981 TOTAL 0.21 MEAN 0.001 MAX 0.20 MIN 0.00 AC-FT 0.4

08238400 BOBOLINK RESERVOIR NEAR CONEJOS, CO

LOCATION.--Lat 37°09'10", long 106°10'18", in SW¼SE¼ sec.26, T.34 N., R.7 E., Conejos County, Hydrologic Unit 13010002, on top of earthfill dam near Center, 0.7 mi (1.1 km) southeast of Flat Top Mountain, 5.3 mi (8.5 km) north of Los Mogotes Peaks and 9.4 mi (15.1 km) northwest of Conejos.

DRAINAGE AREA.--0.23 mi² (0.59 km²).

PERIOD OF RECORD.--June 1979 to current year (seasonal record only).

GAGE.--Water-stage recorder. Altitude of gage is 8,800 ft (2,682 m), from topographic map.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Reservoir is formed by an earthfill dam. Storage occurs intermittenly from storm runoff. Maximum storage is 1.0 acre-ft (1,233 m³) at a spillway gage height of 7.1 ft (2.16 m). No contents occur at a gage height of 3.42 ft (1.04 m). This dam forms a small channel reservoir for controlling heavy runoff and to help control sedimentation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 0.51 acre-ft (629 m³) Aug. 22, 1981, gage height, 6.17 ft (1.881 m); no contents most of time.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 0.51 acre-ft (629 m³) at 1645 Aug. 22, gage height, 6.17 ft (1.881 m); no contents most of time.

Capacity table (elevation, in feet, and total contents, in acre-feet)

3.5	0.01	5.5	0.25
4.5	0.06	6.5	0.67

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	0	.00	.02	.00	.14
2							---	0	.00	.02	.00	.12
3							---	0	.00	.01	.00	.11
4							---	0	.00	.01	.00	.43
5							---	0	.00	.00	.00	.39
6							---	0	.00	.00	.00	.34
7							---	0	.00	.00	.00	.32
8							---	0	.00	.00	.50	.29
9							0	0	.00	.00	.40	.26
10							0	0	.00	.00	.35	.24
11							0	0	.00	.00	.30	.21
12							0	0	.00	.00	.35	.18
13							0	0	.00	.00	.30	.16
14							0	0	.00	.00	.25	.14
15							0	0	.00	.00	.20	.13
16							0	0	.00	.00	.18	.11
17							0	0	.00	.00	.16	.09
18							0	0	.00	.00	.14	.08
19							0	0	.00	.00	.11	.07
20							0	0	.00	.00	.10	.05
21							0	0	.00	.00	.09	.04
22							0	0	.00	.00	.49	.03
23							0	0	.00	.00	.42	.03
24							0	0	.00	.00	.37	.03
25							0	0	.00	.00	.33	.02
26							0	0	.00	.00	.29	.02
27							0	0	.00	.00	.26	.02
28							0	0	.01	.00	.24	.01
29							0	0	.02	.00	.21	.01
30							0	0	.02	.00	.18	.01
31							---	0	---	.00	.15	---
MAX							---	.00	.02	.02	.50	.43
MIN							---	.00	.00	.00	.00	.01

NOTE.--NO GAGE-HEIGHT RECORD JULY 15 TO AUG. 18.

08240000 RIO GRANDE ABOVE MOUTH OF TRINCHERA CREEK, NEAR LASAUSES, CO

LOCATION.--Lat 37°18'58", long 105°44'32", in sec.35, T.36 N., R.11 E., Conejos County, Hydrologic Unit 13010002, on right bank 0.2 mi (0.3 km) upstream from Trinchera Creek, 3.2 mi (5.1 km) north of Lasauses, and 13 mi (21 km) southeast of Alamosa.

DRAINAGE AREA.--5,740 mi^2 (14,900 km^2), approximately, includes 2,940 mi^2 (7,610 km^2) in closed basin in northern part of San Luis Valley, Colo.

PERIOD OF RECORD.--May 1936 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,500 ft (2,286 m), estimated from nearby level lines.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--45 years, 241 ft^3/s (6.825 m^3/s), 174,600 acre-ft/yr (215 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,470 ft^3/s (155 m^3/s) June 21, 1949, gage height, 9.50 ft (2.896 m), from rating curve extended above 3,600 ft^3/s (100 m^3/s); minimum daily, 0.4 ft^3/s (0.011 m^3/s) July 4, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, not determined, maximum gage height, 4.37 ft (1.332 m) backwater from ice; minimum daily discharge, 11.0 ft^3/s (0.31 m^3/s) May 26, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	25	260	226	155	218	45	18	20	51	105	110
2	13	24	265	239	165	224	42	19	20	73	94	115
3	13	24	270	237	165	235	39	21	20	85	93	115
4	13	23	265	233	165	237	39	24	19	122	117	103
5	13	23	282	231	165	233	40	51	21	98	114	105
6	12	22	288	235	180	226	35	47	31	84	74	110
7	12	22	280	224	180	226	32	33	27	68	74	98
8	12	21	253	195	155	233	36	29	47	70	85	103
9	12	22	224	184	125	224	34	31	45	54	85	117
10	12	23	207	195	175	224	32	30	47	48	85	115
11	12	23	195	195	180	222	30	27	103	47	96	111
12	12	23	220	201	180	224	27	25	128	79	120	120
13	13	30	222	205	185	231	31	23	146	154	177	117
14	13	40	237	214	175	224	32	20	209	186	209	122
15	14	85	248	160	205	226	31	18	138	144	150	143
16	14	161	246	180	230	224	34	18	112	143	140	146
17	14	170	251	195	230	224	30	18	108	159	130	126
18	14	180	268	180	255	220	26	20	96	139	136	118
19	15	190	258	170	230	220	26	18	72	126	144	112
20	15	171	268	180	253	214	26	17	76	91	140	114
21	16	179	237	195	251	216	24	15	68	73	120	118
22	16	180	228	185	242	224	23	13	59	59	115	104
23	16	165	237	175	237	201	21	13	57	54	110	88
24	16	185	244	170	233	177	20	13	53	57	105	90
25	17	180	237	180	228	136	18	13	50	52	95	89
26	17	190	220	185	224	115	18	11	40	84	100	94
27	19	220	239	175	220	105	21	11	34	124	90	108
28	18	240	256	185	218	98	20	13	37	136	85	115
29	20	245	272	170	---	82	20	14	41	168	80	110
30	20	250	263	130	---	70	19	16	52	141	90	107
31	23	---	253	150	---	56	---	18	---	117	100	---
TOTAL	459	3336	7693	5979	5606	5989	871	657	1976	3086	3458	3343
MEAN	14.8	111	248	193	200	193	29.0	21.2	65.9	99.5	112	111
MAX	23	250	288	239	255	237	45	51	209	186	209	146
MIN	12	21	195	130	125	56	18	11	19	47	74	88
AC-FT	910	6620	15260	11860	11120	11880	1730	1300	3920	6120	6860	6630

CAL YR 1980 TOTAL 110870.6 MEAN 303 MAX 1650 MIN 6.8 AC-FT 219900
WTR YR 1981 TOTAL 42453.0 MEAN 116 MAX 288 MIN 11 AC-FT 84210

08240500 TRINCHERA CREEK ABOVE TURNERS RANCH, NEAR FORT GARLAND, CO

LOCATION.--Lat 37°22'29", long 105°17'40", Costilla County, Hydrologic Unit 13010002, in Sangre de Cristo Grant, on right bank 0.9 mi (1.4 km) downstream from North Fork, 1.0 mi (1.6 km) upstream from Turners Ranch, and 8.3 mi (13.4 km) southeast of Fort Garland.

DRAINAGE AREA.--45 mi² (120 km²), approximately.

PERIOD OF RECORD.--April 1923 to current year. No winter records prior to 1935 except water year 1928. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 8,520 ft (2,597 m), from topographic map. Prior to Apr. 12, 1929, at site 200 ft (60 m) upstream at different datum.

REMARKS.--Records good except those for winter period and those for period of no gage-height record, which are poor. No regulation or diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--48 years (1928, 1935-81), 22.4 ft³/s (0.634 m³/s), 16,230 acre-ft/yr (20.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 689 ft³/s (19.5 m³/s) May 27, 1942, gage height, 3.32 ft (1.012 m), from rating curve extended above 240 ft³/s (6.8 m³/s); maximum gage height, 3.73 ft (1.137 m) May 10, 1947; minimum daily discharge recorded, 3.0 ft³/s (0.085 m³/s) Oct. 3, 1942.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in 1886 and in October 1911. The flood in 1886 probably exceeded that in October 1911 and the flood in October 1911 probably exceeded all subsequent floods, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 59 ft³/s (1.67 m³/s) at 1800 Aug. 16, gage height, 2.18 ft (0.664 m), only peak above base of 50 ft³/s (1.4 m³/s), maximum gage height, 2.44 ft (0.744 m) at 1030 Nov. 25 (backwater from ice); minimum daily discharge, 5.9 ft³/s (0.17 m³/s) Mar. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	10	8.6	8.5	7.5	7.5	7.9	16	20	19	10	12
2	9.6	10	8.6	8.5	7.0	7.5	8.2	16	20	19	11	10
3	9.6	10	8.6	8.5	7.0	7.5	7.9	16	24	19	10	10
4	9.6	10	8.6	8.5	7.5	7.0	7.6	16	25	16	10	10
5	9.3	10	8.6	8.5	7.5	7.2	9.0	16	25	16	9.6	10
6	10	10	8.6	8.0	8.0	6.5	8.6	16	31	15	9.3	10
7	10	10	8.6	8.0	8.0	6.5	8.6	14	31	16	9.6	12
8	9.6	10	8.5	8.0	8.0	6.5	8.6	14	31	16	11	11
9	9.3	10	8.0	8.5	8.5	6.2	10	14	32	14	15	12
10	9.3	10	8.0	8.5	6.0	6.5	13	14	33	15	12	12
11	10	10	8.5	8.0	6.5	6.2	13	13	32	14	14	12
12	10	9.6	8.5	7.5	7.0	6.2	13	13	31	15	16	12
13	10	10	8.5	7.5	7.0	5.9	12	13	30	13	13	12
14	10	10	8.0	7.5	7.5	6.2	12	12	29	13	12	12
15	12	8.6	8.5	8.0	7.5	6.2	11	13	28	14	12	12
16	11	8.5	8.5	8.5	7.5	6.2	13	14	27	13	15	12
17	10	8.5	8.5	8.5	8.0	6.2	14	14	26	15	14	12
18	10	9.0	8.5	8.5	8.0	6.5	13	13	24	14	12	12
19	10	9.0	8.0	8.0	8.0	6.8	14	14	23	12	12	12
20	11	9.0	8.0	7.5	8.0	6.5	14	14	23	12	11	11
21	11	9.0	8.5	7.5	7.0	6.5	14	14	21	11	11	11
22	11	9.5	8.5	8.0	7.5	7.2	14	13	20	11	11	11
23	11	10	8.0	8.5	7.5	6.8	14	14	20	12	11	12
24	10	9.6	8.0	8.5	8.0	6.8	14	14	20	11	10	12
25	11	9.5	8.5	8.0	8.0	7.2	14	14	18	11	10	11
26	11	9.5	8.5	8.0	7.5	7.6	14	14	18	13	10	11
27	11	9.0	9.0	8.0	7.0	8.2	14	14	17	12	10	11
28	10	9.0	8.5	8.5	7.5	8.2	14	14	17	11	11	10
29	11	8.6	8.0	8.5	---	7.9	14	16	21	10	11	10
30	10	8.6	8.0	8.5	---	7.6	15	19	21	10	10	10
31	10	---	8.5	8.0	---	7.9	---	18	---	10	10	---
TOTAL	316.6	284.5	260.2	253.0	210.0	213.7	359.4	449	738	422	353.5	337
MEAN	10.2	9.48	8.39	8.16	7.50	6.89	12.0	14.5	24.6	13.6	11.4	11.2
MAX	12	10	9.0	8.5	8.5	8.2	15	19	33	19	16	12
MIN	9.3	8.5	8.0	7.5	6.0	5.9	7.6	12	17	10	9.3	10
AC-FT	628	564	516	502	417	424	713	891	1460	837	701	668

CAL YR 1980 TOTAL 10302.5 MEAN 28.1 MAX 215 MIN 7.0 AC-FT 20440
WTR YR 1981 TOTAL 4196.9 MEAN 11.5 MAX 33 MIN 5.9 AC-FT 8320

NOTE.--NO GAGE-HEIGHT RECORD DEC. 9 TO MAR. 4.

08241500 SANGRE DE CRISTO CREEK NEAR FORT GARLAND, CO

LOCATION.--Lat 37°25'30", long 105°24'52", Costilla County, Hydrologic Unit 13010002, in Sangre de Cristo Grant, on left bank at road bridge, 2,200 ft (670 m) upstream from Garland Canal, 1.0 mi (1.6 km) east of Fort Garland, and 6.3 mi (10.1 km) upstream from Ute Creek.

DRAINAGE AREA.--190 mi² (490 km²), approximately.

PERIOD OF RECORD.--March to October 1916, May 1923 to September 1930, October 1931 to current year. No winter records prior to 1946 except water year 1941. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1935(M), 1950(M).

GAGE.--Water-stage recorder. Altitude of gage is 7,900 ft (2,408 m), from topographic map. Mar. 15 to Oct. 9, 1916, nonrecording gage and Cippoletti weir at site 1,400 ft (430 m) downstream at different datum. May 7, 1923, to Feb. 29, 1964, water-stage recorder at site 1.0 mi (1.6 km) upstream at different datum.

REMARKS.--Records good except those for winter period, which are poor. Diversions above station by Sangre de Cristo-Trinchera canal for irrigation below station. Diversion above station from West Indian Creek to Mountain Home Reservoir on Trinchera Creek. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--37 years (water years 1941, 1946-81), 18.3 ft³/s (0.518 m³/s), 13,260 acre-ft/yr (16.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,520 ft³/s (43.0 m³/s) Aug. 31, 1936, gage height, 6.10 ft (1.859 m), site and datum then in use, from rating curve extended above 280 ft³/s (7.9 m³/s) on basis of slope-area measurement of peak flow; maximum gage height, 7.82 ft (2.384 m) June 4, 1957, site and datum then in use; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in 1886 and in October 1911. The flood in 1886 probably exceeded that in October 1911 and the flood in October 1911 probably exceeded all subsequent floods, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 46 ft³/s (1.30 m³/s) at 1730 Aug. 11, gage height, 1.94 ft (0.591 m); maximum gage height, 2.16 ft (0.658 m) (ice jam), sometime during period Dec. 9-27; minimum daily, 0.25 ft³/s (0.007 m³/s) July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	12	12	10	8.0	11	12	14	11	.55	.30	.90
2	7.3	12	11	10	7.5	11	14	14	12	.55	9.5	.65
3	7.3	12	12	10	7.5	11	15	14	12	.40	3.8	.55
4	7.7	12	13	10	8.0	11	14	14	12	.40	2.8	.55
5	7.7	12	12	9.5	8.5	9.3	11	14	6.6	.35	3.8	.55
6	7.7	12	14	9.0	9.0	9.3	12	16	4.1	.35	1.4	.55
7	8.1	12	12	8.5	9.0	12	14	14	3.4	.40	.65	.55
8	8.1	12	9.3	9.0	9.5	10	16	9.7	1.9	.40	.55	1.0
9	8.1	11	8.0	9.0	10	8.5	16	10	1.2	.40	5.7	1.9
10	7.7	11	8.5	9.5	6.5	12	18	12	1.0	.40	7.0	1.7
11	8.1	11	9.5	9.0	5.5	12	19	11	1.9	.35	14	1.9
12	8.5	11	10	8.0	6.5	11	19	10	3.1	.35	13	1.7
13	8.5	12	11	8.0	7.5	11	19	10	2.5	.40	9.7	1.5
14	8.9	12	9.5	8.5	9.0	10	15	10	1.9	.45	5.9	1.4
15	10	9.3	10	9.0	9.0	10	9.3	10	1.7	.40	3.6	1.7
16	13	8.0	11	10	9.0	10	6.6	12	1.7	.35	7.8	1.4
17	12	8.5	11	9.5	9.5	10	5.3	12	1.6	.40	16	1.2
18	12	9.0	11	9.5	9.5	11	4.1	12	1.2	.40	10	1.0
19	12	9.5	10	8.5	11	9.3	3.8	12	1.0	.30	7.7	.90
20	12	9.5	9.5	8.0	12	12	3.4	11	.90	.30	5.6	.65
21	12	9.5	10	8.5	9.0	11	3.1	10	.75	.25	3.4	.55
22	12	10	11	9.5	9.5	10	2.9	9.7	.65	.30	2.7	.45
23	12	11	10	11	10	13	8.9	9.3	.55	.30	2.5	.45
24	12	10	10	11	11	13	14	10	.55	.40	1.9	.55
25	11	9.5	11	9.0	12	11	14	11	.55	.30	1.4	.45
26	12	9.5	11	9.0	11	12	13	10	.55	.35	1.0	.45
27	12	10	12	8.5	9.0	14	12	9.3	.55	.35	1.0	.55
28	12	12	13	10	11	13	12	8.5	.55	.32	1.5	.55
29	12	14	14	9.5	---	14	12	8.5	.65	.30	2.3	.45
30	12	13	9.3	9.5	---	15	13	11	.65	.30	2.1	.55
31	13	---	9.5	9.0	---	12	---	12	---	.30	1.2	---
TOTAL	314.0	326.3	335.1	287.0	254.5	349.4	351.4	351.0	88.70	11.37	149.80	27.25
MEAN	10.1	10.9	10.8	9.26	9.09	11.3	11.7	11.3	2.96	.37	4.83	.91
MAX	13	14	14	11	12	15	19	16	12	.55	16	1.9
MIN	7.3	8.0	8.0	8.0	5.5	8.5	2.9	8.5	.55	.25	.30	.45
AC-FT	623	647	665	569	505	693	697	696	176	23	297	54

CAL YR 1980 TOTAL 16737.70 MEAN 45.7 MAX 444 MIN 5.3 AC-FT 33200
WTR YR 1981 TOTAL 2845.82 MEAN 7.80 MAX 19 MIN .25 AC-FT 5640

NOTE.--NO GAGE-HEIGHT RECORD JAN. 15 TO MAR. 4.

08242500 UTE CREEK NEAR FORT GARLAND, CO

LOCATION.--Lat 37°26'50", long 105°25'30", Costilla County, Hydrologic Unit 13010002, in Sangre de Cristo Grant, on left bank 2,300 ft (700 m) upstream from Newton ditch, 1.4 mi (2.3 km) north of Fort Garland, and 5.7 mi (9.2 km) upstream from mouth.

DRAINAGE AREA.--32 mi² (83 km²), approximately.

PERIOD OF RECORD.--March to October 1916, May 1923 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 8,045 ft (2,452 m), from topographic map. Mar. 18 to Oct. 9, 1916, nonrecording gage and Cippoletti weir at different datum.

REMARKS.--Records good except those for winter period and those for periods of no gage-height record, which are poor. A few diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--58 years (water years 1924-81), 19.8 ft³/s (0.561 m³/s), 14,350 acre-ft/yr (17.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 630 ft³/s (17.8 m³/s) May 15, 1941; no flow July 28-31, Sept. 6-29, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in 1886 and in October 1911. The flood in 1886 probably exceeded that in October 1911 and the flood in October 1911 probably exceeded all subsequent floods, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 65 ft³/s (1.84 m³/s) at 1730 Aug. 11, gage height, 2.39 ft (0.728 m), no peak above base of 100 ft³/s (2.8 m³/s); minimum daily, 3.0 ft³/s (0.085 m³/s) Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	8.7	6.1	4.5	3.5	5.5	6.4	24	36	9.6	5.9	15
2	4.1	8.4	6.0	4.5	3.5	5.5	7.5	24	29	9.9	13	12
3	4.1	8.4	6.0	4.5	4.0	5.5	7.5	27	34	9.0	13	10
4	4.0	8.1	6.0	4.5	4.5	5.5	5.9	22	29	7.3	16	10
5	3.8	8.4	6.5	4.5	4.0	5.2	5.7	21	27	6.1	13	9.6
6	3.8	8.1	6.0	4.0	4.0	5.0	6.4	18	33	5.4	10	10
7	3.8	7.8	5.5	3.5	4.0	4.5	9.3	13	39	5.4	11	14
8	3.8	7.5	4.5	4.0	4.0	5.0	9.3	11	38	6.1	31	18
9	3.8	7.3	4.0	4.0	5.0	4.7	11	10	37	5.2	36	16
10	3.8	7.5	4.0	4.0	4.0	5.2	15	9.9	36	5.0	25	15
11	4.0	7.3	4.5	4.0	3.0	5.2	15	9.9	30	6.8	34	12
12	5.4	7.5	4.5	4.0	4.0	5.7	15	9.9	25	6.4	44	14
13	6.1	7.5	5.0	4.0	4.5	5.2	14	10	26	7.0	36	14
14	6.4	7.3	4.5	3.5	4.5	5.0	12	11	20	11	27	15
15	8.7	6.6	4.5	3.5	5.0	5.7	11	12	16	11	22	13
16	7.5	5.0	5.0	4.0	5.0	5.4	12	14	13	9.9	23	13
17	7.8	4.8	5.0	4.0	5.0	5.4	15	14	13	18	24	13
18	8.1	5.0	4.5	4.5	5.0	5.2	18	12	15	34	21	11
19	7.8	5.2	4.5	4.5	5.0	5.0	16	12	16	21	18	10
20	8.1	5.4	4.0	4.0	5.5	5.7	11	13	16	15	16	9.9
21	8.7	5.5	4.0	4.0	4.5	5.2	8.1	10	16	11	15	9.3
22	8.7	5.5	4.0	4.5	4.0	5.7	11	6.8	15	9.3	14	9.3
23	8.4	5.5	4.0	5.0	4.5	5.9	12	5.9	11	9.3	13	9.0
24	8.1	6.0	3.5	4.7	5.0	6.1	15	6.4	12	10	11	9.3
25	8.7	6.0	3.5	4.1	5.0	5.9	22	7.3	11	8.7	10	8.7
26	8.4	5.5	4.0	3.6	5.0	6.8	25	9.6	10	12	12	8.1
27	9.0	5.4	4.0	3.2	4.5	7.8	22	12	7.8	16	15	7.5
28	8.4	6.1	4.5	3.6	4.5	7.0	23	21	6.6	11	20	7.0
29	8.7	6.1	4.5	4.5	---	6.6	24	24	6.6	9.3	9.9	7.0
30	9.0	6.1	4.0	4.5	---	7.5	22	24	7.5	8.4	7.0	7.0
31	8.7	---	4.5	4.0	---	6.1	---	28	---	7.3	4.7	---
TOTAL	204.4	199.5	145.1	127.7	124.0	175.7	407.1	452.7	631.5	321.4	570.5	336.7
MEAN	6.59	6.65	4.68	4.12	4.43	5.67	13.6	14.6	21.1	10.4	18.4	11.2
MAX	9.0	8.7	6.5	5.0	5.5	7.8	25	28	39	34	44	18
MIN	3.8	4.8	3.5	3.2	3.0	4.5	5.7	5.9	6.6	5.0	4.7	7.0
AC-FT	405	396	288	253	246	349	807	898	1250	637	1130	668

CAL YR 1980 TOTAL 9460.0 MEAN 25.8 MAX 188 MIN 3.5 AC-FT 18760
WTR YR 1981 TOTAL 3696.3 MEAN 10.1 MAX 44 MIN 3.0 AC-FT 7330

NOTE.--NO GAGE-HEIGHT RECORD DEC. 2 TO JAN. 22, JAN. 29 TO MAR. 4.

08243500 TRINCHERA CREEK BELOW SMITH RESERVOIR, NEAR BLANCA, CO

LOCATION.--Lat 37°23'10", long 105°33'02", in sec.4, T.31 S., R.73 W. (unsurveyed), Costilla County, Hydrologic Unit 13010002, on right bank 150 ft (46 m) downstream from bridge, 0.6 mi (1.0 km) downstream from Smith Reservoir, and 4.0 mi (6.4 km) southwest of Blanca.

DRAINAGE AREA.--396 mi² (1,026 km²).

PERIOD OF RECORD.--October 1928 to current year. No winter records prior to 1944 except water years 1931, 1934-36, 1938. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1512: 1937, 1950(M).

GAGE.--Water-stage recorder. Altitude of gage is 7,700 ft (2,347 m), estimated from nearby U.S. Coast and Geodetic Survey level lines. Prior to Oct. 12, 1964, at site 200 ft (61 m) downstream. Prior to Apr. 19, 1943, at datum 1.00 ft (0.305 m) higher, and at present datum thereafter.

REMARKS.--Records good. Diversions above station for irrigation. Flow regulated by Smith Reservoir, capacity, 5,335 acre-ft (6.58 hm³). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--43 years (1930-31, 1933-36, 1937-38, 1943-81), 10.4 ft³/s (0.295 m³/s), 7,284 acre-ft/yr (9.284 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,340 ft³/s (37.9 m³/s) May 11, 1942; no flow Sept. 13, 14, 16, 17, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in 1886 and October 1911. The flood in 1886 probably exceeded that in October 1911 and the flood in 1911 probably exceeded all subsequent floods, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 39 ft³/s (1.10 m³/s) at 0300 May 14, gage height, 2.51 ft (0.765 m), maximum gage height, 3.21 ft (0.978 m) at 1600 June 25 (backwater from road construction); minimum daily discharge, 0.15 ft³/s (0.004 m³/s) Aug. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	6.2	5.5	6.6	3.0	2.5	7.8	1.6	2.0	3.0	1.4	2.2
2	8.6	6.2	5.5	6.6	3.0	2.8	7.8	1.6	2.2	3.0	1.4	2.0
3	8.6	6.6	5.5	6.6	3.0	2.8	8.2	1.6	2.0	2.2	1.8	1.8
4	8.6	6.6	5.5	6.6	3.0	2.5	10	1.8	2.0	1.2	1.4	1.8
5	8.6	6.6	5.5	6.6	3.0	2.5	10	1.8	1.8	.80	.80	1.8
6	8.6	6.6	5.5	6.6	3.0	2.5	10	2.0	1.8	1.0	.35	1.8
7	8.2	6.6	5.5	6.6	3.0	2.5	10	2.0	1.8	1.2	.15	1.8
8	7.8	6.6	5.5	6.6	3.0	2.5	11	2.0	2.5	1.4	.25	1.6
9	7.8	5.8	5.5	6.6	3.0	2.5	12	1.8	4.2	1.6	.50	1.6
10	6.6	5.8	5.5	6.6	3.0	2.5	13	2.0	4.2	2.0	1.0	1.6
11	5.8	5.8	5.5	6.6	2.9	2.5	14	2.0	4.2	2.2	1.6	1.2
12	6.2	6.2	5.5	6.6	3.0	2.2	14	2.0	4.2	1.6	1.8	1.2
13	5.8	6.2	5.5	6.6	3.0	2.2	15	1.8	3.9	1.8	1.6	1.2
14	6.2	6.2	5.5	6.6	3.0	2.2	17	2.0	4.2	2.0	1.6	1.2
15	7.0	6.2	5.5	6.6	3.0	2.0	12	2.0	3.6	2.2	1.4	1.4
16	6.6	6.2	5.5	6.6	3.0	2.0	11	2.2	4.5	2.2	1.4	1.6
17	6.6	6.6	5.5	6.6	2.8	2.0	9.0	2.2	4.5	2.2	1.2	1.6
18	6.6	5.8	5.5	6.6	2.8	2.0	8.2	2.0	4.8	2.2	1.2	1.6
19	6.6	5.8	5.5	6.6	2.8	2.0	6.2	2.0	4.5	2.2	1.4	1.6
20	6.6	5.8	5.5	6.3	2.8	2.0	5.2	2.0	4.2	2.2	1.4	1.6
21	6.6	5.8	5.5	3.3	2.8	2.2	3.9	2.0	4.2	2.2	1.8	1.8
22	6.2	5.8	5.5	3.3	3.0	2.2	3.6	2.0	3.6	2.2	2.0	1.8
23	6.2	5.8	5.5	3.3	3.0	2.2	2.8	2.0	3.0	2.2	2.2	1.8
24	6.2	5.8	5.5	3.3	3.0	2.2	2.2	2.0	3.0	2.2	2.5	1.8
25	6.2	5.8	5.5	3.3	3.0	2.2	2.0	2.0	2.5	2.0	2.0	1.8
26	6.2	5.8	5.5	3.3	2.8	2.2	1.8	2.0	2.8	1.8	2.0	1.8
27	6.2	5.8	6.2	3.3	2.5	2.2	1.8	2.0	2.2	1.8	2.0	1.8
28	6.2	5.8	6.2	3.3	2.5	3.6	2.0	2.0	2.5	1.6	2.2	2.0
29	6.2	5.8	6.6	3.3	---	5.2	1.8	2.0	2.8	1.6	2.2	1.6
30	6.9	5.8	6.6	3.3	---	5.5	1.8	2.2	2.8	1.4	2.2	1.6
31	6.2	---	6.6	3.3	---	7.4	---	2.0	---	1.4	2.2	---
TOTAL	215.3	182.4	175.2	168.0	81.7	83.8	235.1	60.6	96.5	58.60	46.95	50.0
MEAN	6.95	6.08	5.65	5.42	2.92	2.70	7.84	1.95	3.22	1.89	1.51	1.67
MAX	8.6	6.6	6.6	6.6	3.0	7.4	17	2.2	4.8	3.0	2.5	2.2
MIN	5.8	5.8	5.5	3.3	2.5	2.0	1.8	1.6	1.8	.80	.15	1.2
AC-FT	427	362	348	333	162	166	466	120	191	116	93	99

CAL YR 1980 TOTAL 13422.50 MEAN 36.7 MAX 431 MIN 1.6 AC-FT 26620
WTR YR 1981 TOTAL 1454.15 MEAN 3.98 MAX 17 MIN .15 AC-FT 2880

08244500 PLATORO RESERVOIR AT PLATORO, CO

LOCATION.--Lat 37°21'07", long 106°32'38", Conejos County, Hydrologic unit 13010005, on right bank in valvehouse, 400 ft (120 m) downstream from Platoro Dam on Conejos River and 0.7 mi (1.1 km) west of Platoro.

DRAINAGE AREA.--40 mi^2 (104 km^2), approximately.

PERIOD OF RECORD.--November 1951 to current year.

GAGE.--Nonrecording gage. Datum of gage is 9,911.5 ft (3,021.03 m), National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations NGVD. Prior to June 9, 1955, nonrecording gage at present site and datum. June 9, 1955 to Sept. 30, 1959, water-stage recorder in gate chamber at dam for elevations above 9,921.0 ft (3,023.92 m) at same datum.

REMARKS.--Reservoir is formed by an earth and rockfill dam and dikes. Dam completed Dec. 9, 1951; storage began Nov. 7, 1951. Capacity of reservoir (based on revised capacity table put in use Jan. 1, 1975), 59,570 acre-ft (73.4 hm^3) between elevations 9,911.5 ft (3,021.03 m), sill of trashrack at outlet, and 10,034.0 ft (3,058.36 m), crest of spillway. No dead storage. Reservoir is used for irrigation and flood control. Figures given are usable contents.

COOPERATION.--Records furnished by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 61,420 acre-ft (75.7 hm^3) June 9, 11, 1958, elevation, 10,035.5 ft (3,058.82 m); no contents for long periods in 1952-56.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,950 acre-ft (56.0 hm^3) July 28, elevation, 10,015.5 ft (3,052.72 m); minimum contents, 14,050 acre-ft (17.3 hm^3) May 17, elevation, 9,971.7 ft (3,039.37 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 1000, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	9,982.3	19,630	
Oct. 31.	9,982.4	19,690	+60
Nov. 30.	9,982.4	19,690	0
Dec. 31.	(a)		
CAL YR 1980			
Jan. 31.	9,982.4	19,690	0
Feb. 28.	9,982.3	19,630	-60
Mar. 31.	9,982.4	19,690	+60
Apr. 30.	9,982.7	19,860	+170
May 31.	9,982.5	19,750	-110
June 30.	9,982.6	19,800	+50
July 31.	9,982.5	19,750	-50
Aug. 31.	9,982.4	19,690	-60
Sept. 30.	9,982.4	19,690	0
WTR YR 1981			+60

a Operation of reservoir suspended Dec. 30 (elevation, 9,982.4 ft; contents, 19,690 acre-ft); resumed Apr. 21.

08245000 CONEJOS RIVER BELOW PLATORO RESERVOIR, CO

LOCATION.--Lat 37°21'18", long 106°32'37", Conejos County, Hydrologic Unit 13010005, on left bank 1,100 ft (340 m) downstream from valvehouse for Platoro Reservoir and 0.7 mi (1.1 km) northwest of Platoro.

DRAINAGE AREA.--40 mi² (100 km²), approximately.

PERIOD OF RECORD.--May 1952 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 9,866.60 ft (3,007.340 m), National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Records good except those for period of no gage-height record, which are fair. No diversion above station. Flow completely regulated by Platoro Reservoir (station 08244500). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--29 years, 88.1 ft³/s (2.495 m³/s), 63,830 acre-ft/yr (78.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,160 ft³/s (32.9 m³/s) Nov. 1, 1957, gage height, 4.02 ft (1.225 m); maximum gage height, 4.29 ft (1.308 m) June 15, 1958; no flow Oct. 16-20, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 705 ft³/s (20.0 m³/s) at 1200 June 8, gage height, 3.29 ft (1.003 m); minimum daily, 3.5 ft³/s (0.10 m³/s) Dec. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	7.8	12	7.5	7.0	5.0	8.0	370	442	82	54	35
2	7.8	7.4	4.8	7.5	7.0	5.0	8.0	358	362	74	32	24
3	7.8	7.0	3.5	7.5	7.0	5.0	8.0	304	466	74	25	24
4	7.8	7.0	4.9	7.5	7.0	5.0	8.0	298	318	73	25	24
5	7.8	7.0	5.5	7.5	7.0	5.0	8.0	290	221	71	18	24
6	8.1	7.0	3.8	6.0	7.0	5.0	8.0	182	478	42	16	50
7	8.1	14	3.8	4.0	7.0	5.0	8.0	109	555	35	9.9	59
8	8.1	20	6.0	4.0	7.0	5.0	8.0	111	636	35	7.4	51
9	8.4	20	6.5	4.0	7.0	5.0	8.0	123	596	72	30	47
10	7.0	20	6.0	4.0	7.0	5.0	8.0	104	582	85	39	30
11	7.0	20	5.0	4.0	7.0	7.5	8.0	95	502	85	45	38
12	7.0	20	5.0	4.0	6.0	10	8.5	109	454	71	52	85
13	7.0	20	5.0	4.0	5.0	10	9.0	116	374	39	29	53
14	7.0	20	5.0	4.0	5.0	10	9.0	88	259	13	13	44
15	7.0	20	7.5	4.0	5.0	10	9.0	71	197	21	13	44
16	7.0	20	10	4.0	5.0	10	9.0	130	167	47	13	56
17	13	12	10	4.0	5.0	10	9.0	114	188	104	13	61
18	20	5.8	10	4.0	5.0	10	9.0	91	188	86	19	57
19	20	5.8	10	4.0	5.0	10	9.0	69	152	48	22	29
20	24	6.0	10	4.0	5.0	10	9.0	80	152	40	22	25
21	28	6.0	10	4.0	5.0	10	43	102	200	27	24	25
22	17	6.0	10	4.0	5.0	10	80	106	152	24	24	25
23	6.4	6.0	10	4.0	5.0	10	80	102	111	62	37	33
24	6.4	6.4	10	4.0	5.0	10	100	90	111	54	33	71
25	6.4	12	10	4.0	5.0	10	118	85	111	43	20	46
26	6.4	17	10	5.5	5.0	10	118	147	111	43	20	29
27	6.4	17	10	7.0	5.0	10	161	239	97	43	20	30
28	6.4	17	10	7.0	5.0	10	245	386	85	34	36	30
29	6.4	18	10	7.0	---	10	374	362	82	20	45	26
30	6.4	18	8.5	7.0	---	10	442	318	102	23	45	22
31	7.0	---	7.5	7.0	---	9.0	---	340	---	47	50	---
TOTAL	300.9	390.2	240.3	160.0	163.0	256.5	1929.5	5489	8451	1617	851.3	1197
MEAN	9.71	13.0	7.75	5.16	5.82	8.27	64.3	177	282	52.2	27.5	39.9
MAX	28	20	12	7.5	7.0	10	442	386	636	104	54	85
MIN	6.4	5.8	3.5	4.0	5.0	5.0	8.0	69	82	13	7.4	22
AC-FT	597	774	477	317	323	509	3830	10890	16760	3210	1690	2370

CAL YR 1980 TOTAL 47468.1 MEAN 130 MAX 640 MIN 3.5 AC-FT 94150
WTR YR 1981 TOTAL 21045.7 MEAN 57.7 MAX 636 MIN 3.5 AC-FT 41740

08246500 CONEJOS RIVER NEAR MOGOTE, CO

LOCATION.--Lat 37°03'14", long 106°11'13", in SE¼SE¼ sec.34, T.33 N., R.7 E., Conejos County, Hydrologic Unit 13010005, on right bank 25 ft (8 m) upstream from bridge on State Highway 174, 0.4 mi (0.6 km) downstream from Fox Creek, 5.3 mi (8.5 km) west of Mogote, and 10 mi (16 km) west of Antonito.

DRAINAGE AREA.--282 mi² (730 km²).

PERIOD OF RECORD.--April 1903 to October 1905, October 1911 to current year. Monthly discharge only for some periods, published in WSP 1312. Records for March 1900 at site 5.5 mi (8.8 km) upstream and May 1905 to September 1911 (some missing periods most years) at site 3.2 mi (5.1 km) upstream not equivalent to present site due to inflow.

REVISED RECORDS.--WSP 898: 1911(M). WSP 1312: 1903-5, 1913. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 8,271.54 ft (2,521.156 m) Colorado State Highway datum. Apr. 17, 1903, to Oct. 31, 1905, nonrecording gage 500 ft (150 m) downstream at different datum. Oct. 5, 1911, to early 1915, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation of about 500 acres (2.0 km²) of hay meadows above station. Some regulation by Platoro Reservoir (station 08244500). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--72 years, 330 ft³/s (9.346 m³/s), 239,100 acre-ft/yr (295 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft³/s (255 m³/s) Oct. 5, 1911, gage height, 8.50 ft (2.591 m), from floodmarks, present site and datum, from rating curve extended above 3,100 ft³/s (88 m³/s); minimum daily determined, 10 ft³/s (0.28 m³/s) July 18, 1904.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, that of Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,570 ft³/s (44.5 m³/s) at 0430 June 9, gage height, 3.62 ft (1.103 m); minimum daily, 30 ft³/s (0.85 m³/s) Nov. 20, Feb. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	62	45	36	32	48	57	735	960	236	106	136
2	53	60	40	39	30	48	62	780	970	201	111	111
3	51	59	41	39	31	46	62	965	960	180	106	96
4	51	59	42	39	34	45	55	835	905	164	96	96
5	51	59	50	42	33	40	53	780	660	148	79	98
6	48	59	48	33	32	45	62	620	850	136	72	114
7	48	59	44	35	33	42	75	452	1320	119	68	154
8	48	59	41	39	32	40	77	384	1300	167	82	184
9	48	62	39	34	38	42	84	356	1410	215	84	170
10	48	62	37	34	37	44	103	344	1190	232	96	145
11	50	62	40	34	32	45	119	324	1090	243	134	134
12	50	62	42	35	34	45	122	306	935	218	139	243
13	50	68	46	35	34	46	114	310	800	174	131	260
14	53	68	42	34	35	48	125	306	633	139	101	215
15	68	57	40	36	38	50	119	320	507	125	79	184
16	62	62	40	36	36	51	131	316	408	125	77	177
17	59	55	40	38	37	50	161	344	384	194	86	187
18	62	50	40	39	37	48	184	310	372	232	93	184
19	70	45	42	35	37	48	167	302	352	198	88	161
20	72	30	40	34	42	51	178	306	302	139	101	139
21	72	32	38	34	39	48	167	328	332	119	106	128
22	77	32	40	34	35	50	215	324	328	103	109	116
23	70	35	40	34	39	53	243	313	271	101	106	114
24	57	40	38	34	40	57	264	320	246	136	103	151
25	57	37	38	34	40	57	328	344	232	116	93	184
26	57	35	40	33	42	60	364	436	240	111	82	136
27	59	33	40	33	40	68	376	597	232	119	86	114
28	55	35	40	38	39	59	440	890	204	111	151	109
29	57	39	42	40	---	55	516	945	204	101	180	106
30	59	42	40	33	---	62	740	830	212	91	151	103
31	60	---	40	33	---	53	---	830	---	91	139	---
TOTAL	1775	1519	1275	1106	1008	1544	5763	15552	18809	4784	3235	4449
MEAN	57.3	50.6	41.1	35.7	36.0	49.8	192	502	627	154	104	148
MAX	77	68	50	42	42	68	740	965	1410	243	180	260
MIN	48	30	37	33	30	40	53	302	204	91	68	96
AC-FT	3520	3010	2530	2190	2000	3060	11430	30850	37310	9490	6420	8820

CAL YR 1980 TOTAL 147900 MEAN 404 MAX 2470 MIN 30 AC-FT 293400
WTR YR 1981 TOTAL 60819 MEAN 167 MAX 1410 MIN 30 AC-FT 120600

08247500 SAN ANTONIO RIVER AT ORTIZ, CO

LOCATION.--Lat 36°59'35", long 106°02'17", in NE¼SE¼ sec.24, T.32 N., R.8 E., Rio Arriba County, New Mexico, Hydrologic Unit 13010005, on left bank 800 ft (240 m) south of Colorado-New Mexico State line, 0.4 mi (0.6 km) southeast of Ortiz, and 0.4 mi (0.6 km) upstream from Los Pinos River.

DRAINAGE AREA.--110 mi² (280 km²), approximately.

PERIOD OF RECORD.--April 1919 to October 1920, October 1924 to current year (no winter records prior to 1941). Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1732: 1951. WSP 1923: 1927 (monthly runoff).

GAGE.--Water-stage recorder. Altitude of gage is 7,970 ft (2,429 m), from topographic map. Prior to Apr. 7, 1926, nonrecording gage at various locations near present site at different datums. Apr. 7, 1926, to June 24, 1954, water-stage recorder at site 200 ft (50 m) downstream at present datum.

REMARKS.--Records good except those for winter period, which are fair. A few small diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--41 years (1940-81), 24.5 ft³/s (0.694 m³/s), 17,750 acre-ft/yr (21.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft³/s (49.6 m³/s) Apr. 15, 1937, gage height, 5.38 ft (1.640 m), from rating curve extended above 1,100 ft³/s (31 m³/s); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 100 ft³/s (2.83 m³/s) at 2000 Sept. 3, gage height, 1.92 ft (0.585 m), no peak above base of 330 ft³/s (9.3 m³/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	4.5	4.2	3.0	1.5	5.5	6.4	26	7.2	.00	.05	.80
2	.00	4.5	3.8	3.0	1.0	5.8	7.8	26	12	.00	5.0	.80
3	.00	4.2	3.6	2.2	1.5	5.5	12	24	7.8	.00	2.6	12
4	.00	3.8	3.0	2.4	2.0	5.5	8.3	23	5.8	.00	1.9	8.5
5	.00	3.8	3.0	2.6	1.5	4.0	6.1	16	5.8	.00	3.8	1.0
6	.00	3.6	3.6	1.4	1.5	3.8	7.3	14	8.1	.00	1.4	2.6
7	.00	3.6	3.4	1.6	1.5	4.5	10	12	8.6	.00	.60	3.2
8	.00	3.4	2.4	2.0	1.5	4.5	16	9.7	4.8	.00	4.1	3.8
9	.00	3.4	3.4	1.5	2.5	5.0	19	8.9	3.2	.00	4.2	2.8
10	.00	3.2	3.8	1.5	2.0	5.2	25	8.2	2.4	.00	3.7	3.4
11	.00	3.0	4.5	2.0	1.5	5.2	36	7.8	1.6	.00	8.4	3.1
12	.00	3.2	5.0	1.5	2.0	5.0	34	6.8	1.2	.62	11	3.4
13	.00	3.4	5.0	1.0	2.0	5.5	29	6.8	.70	.84	5.5	1.6
14	.00	3.8	5.0	1.0	2.5	5.0	41	6.4	.30	.01	2.6	1.8
15	.00	3.8	4.5	1.0	3.0	4.8	27	6.1	.15	1.2	1.3	1.6
16	4.5	2.6	4.2	1.5	3.5	4.2	33	8.2	.05	2.2	.90	1.3
17	3.6	1.4	4.0	1.5	4.0	4.5	51	14	.00	2.0	.40	1.6
18	2.6	1.5	3.8	2.0	4.5	4.2	57	15	.00	.50	.60	2.2
19	3.8	1.5	3.6	2.0	5.0	5.0	39	11	.00	.50	.36	1.6
20	3.4	1.5	3.0	1.5	6.0	4.8	44	10	.00	5.0	1.2	1.6
21	3.4	1.5	2.8	1.5	5.5	5.2	37	8.6	.00	2.1	.70	1.3
22	3.2	1.5	3.0	2.0	4.5	3.8	39	7.5	.00	.80	.50	.90
23	3.2	2.0	3.4	2.5	5.0	4.0	41	6.1	.00	.70	2.1	.50
24	3.0	3.0	2.6	2.0	5.0	5.0	39	5.8	.00	.60	2.2	.40
25	2.6	2.5	3.2	2.0	5.0	5.2	46	5.5	.00	.15	1.8	1.0
26	2.6	2.5	3.2	1.5	5.5	6.4	47	5.0	.00	.05	1.0	1.0
27	3.0	2.5	3.2	1.5	5.2	8.9	40	4.5	.00	.03	.50	1.0
28	4.2	3.0	3.2	2.0	5.0	8.9	35	3.8	.00	.11	.25	.90
29	3.8	3.0	3.8	2.0	---	8.2	30	4.0	.00	1.4	4.2	.70
30	4.0	3.5	3.4	1.5	---	7.2	28	5.5	.00	.60	2.6	.60
31	4.2	---	2.8	2.0	---	6.4	---	7.2	---	.15	1.6	---
TOTAL	55.10	88.7	111.4	56.7	91.2	166.7	890.9	323.4	69.70	19.56	77.06	67.00
MEAN	1.78	2.96	3.59	1.83	3.26	5.38	29.7	10.4	2.32	.63	2.49	2.23
MAX	4.5	4.5	5.0	3.0	6.0	8.9	57	26	12	5.0	11	12
MIN	.00	1.4	2.4	1.0	1.0	3.8	6.1	3.8	.00	.00	.05	.40
AC-FT	109	176	221	112	181	331	1770	641	138	39	153	133

CAL YR 1980 TOTAL 14888.07 MEAN 40.7 MAX 612 MIN .00 AC-FT 29530
WTR YR 1981 TOTAL 2017.42 MEAN 5.53 MAX 57 MIN .00 AC-FT 4000

NOTE.--NO GAGE-HEIGHT RECORD JAN. 9 TO FEB. 20.

08248000 LOS PINOS RIVER NEAR ORTIZ, CO

LOCATION.--Lat 36°58'56", long 106°04'23", on line between secs.26 and 27, T.32 N., R.8 E., Rio Arriba County, New Mexico, Hydrologic Unit 13010005, on left bank 0.9 mi (1.4 km) south of Colorado-New Mexico State line, 2.1 mi (3.4 km) southwest of Ortiz, and 2.9 mi (4.7 km) upstream from mouth.

DRAINAGE AREA.--167 mi² (433 km²).

PERIOD OF RECORD.--January 1915 to December 1920, October 1924 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 8,040 ft (2,451 m), from topographic map. Prior to Apr. 15, 1955, at site 350 ft (110 m) upstream at datum 2.52 ft (0.768 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--62 years, 119 ft³/s (3.370 m³/s), 86,220 acre-ft/yr (106 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,160 ft³/s (89.5 m³/s) May 12, 1941, gage height, 5.77 ft (1.759 m), site and datum then in use, from rating curve extended above 1,600 ft³/s (45 m³/s); minimum observed, 4.0 ft³/s (0.11 m³/s) Dec. 17, 1945 (discharge measurement) but may have been less during periods of no gage-height record.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 580 ft³/s (16.4 m³/s) at 1830 May 3, gage height, 4.25 ft (1.295 m), no peak above base of 900 ft³/s (25 m³/s); minimum daily, 11 ft³/s (0.31 m³/s) Aug. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	19	20	18	14	17	17	329	195	25	18	31
2	13	19	18	19	12	16	20	336	178	28	17	25
3	12	18	19	18	12	17	20	540	178	24	18	24
4	13	19	19	18	13	15	18	378	164	21	18	24
5	13	19	22	20	14	15	18	291	149	19	13	23
6	13	20	21	18	13	15	18	243	166	18	11	26
7	12	21	19	15	13	15	20	202	180	17	13	32
8	12	22	17	16	13	15	20	175	164	17	18	34
9	13	21	15	15	16	15	27	157	151	24	17	34
10	14	20	14	15	16	13	43	147	136	42	18	29
11	15	20	15	16	13	15	59	145	118	34	25	25
12	15	20	17	15	14	15	64	134	105	38	28	49
13	15	22	19	13	14	15	69	132	91	32	24	44
14	15	24	18	12	15	15	108	126	79	29	20	38
15	23	15	17	13	16	15	86	136	68	31	19	31
16	20	15	17	15	13	15	130	147	62	26	18	27
17	12	15	17	16	14	15	190	142	54	28	23	25
18	18	15	17	16	14	15	205	140	49	28	28	24
19	18	15	18	16	15	16	190	178	44	31	24	21
20	19	15	17	14	19	16	212	168	37	25	24	20
21	20	15	16	14	16	15	202	164	33	19	25	18
22	20	15	17	15	14	13	222	142	30	17	32	17
23	18	18	17	17	15	15	240	134	28	17	33	17
24	16	20	16	15	15	15	279	130	27	18	25	20
25	16	18	16	16	15	16	326	134	25	18	21	29
26	18	17	17	14	17	17	326	145	25	19	20	24
27	18	16	17	14	17	18	312	153	26	24	20	20
28	16	19	17	16	15	18	291	198	21	20	51	18
29	17	19	18	16	---	16	285	188	22	18	56	18
30	16	20	18	14	---	18	329	175	26	17	42	19
31	18	---	18	16	---	17	---	173	---	17	34	---
TOTAL	491	551	543	485	407	483	4346	5982	2631	741	753	786
MEAN	15.8	18.4	17.5	15.6	14.5	15.6	145	193	87.7	23.9	24.3	26.2
MAX	23	24	22	20	19	18	329	540	195	42	56	49
MIN	12	15	14	12	12	13	17	126	21	17	11	17
AC-FT	974	1090	1080	962	807	958	8620	11870	5220	1470	1490	1560

CAL YR 1980 TOTAL 58729 MEAN 160 MAX 1340 MIN 11 AC-FT 116500
WTR YR 1981 TOTAL 18199 MEAN 49.9 MAX 540 MIN 11 AC-FT 36100

08248500 SAN ANTONIO RIVER AT MOUTH, NEAR MANASSA, CO

LOCATION.--Lat 37°10'37", long 105°52'39", in SE¼NE¼ sec.21, T.34 N., R.10 E., Conejos County, Hydrologic Unit 13010005, on right bank 0.3 mi (0.5 km) downstream from bridge on State Highway 142, 2.2 mi (3.5 km) upstream from mouth, and 3.3 mi (5.3 km) east of Manassa.

DRAINAGE AREA.--348 mi^2 (901 km^2).

PERIOD OF RECORD.--April 1923 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1936(M). WSP 1732: 1957.

GAGE.--Water-stage recorder. Altitude of gage is 7,650 ft (2,332 m), from topographic map. Prior to Apr. 23, 1936, at former bridge site 200 ft (60 m) upstream at present datum.

REMARKS.--Records good except those for winter period which are poor. Natural flow of stream affected by diversions to Cove Lake Reservoir, capacity, 9,700 acre-ft (12.0 hm^3) and diversions for irrigation above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--58 years, 79.4 ft^3/s (2.249 m^3/s), 57,530 acre-ft/yr (70.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,620 ft^3/s (74.2 m^3/s) May 14, 1941, gage height, 6.26 ft (1.908 m), from rating curve extended above 2,200 ft^3/s (62 m^3/s); maximum gage height, 6.42 ft (1.957 m) May 6, 1952; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854 occurred Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 291 ft^3/s (8.24 m^3/s) at 0500 May 4, gage height, 3.24 ft (0.988 m); no peak above base of 500 ft^3/s (14 m^3/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	10	9.0	5.5	13	7.6	170	88	8.3	.00	.00
2	.00	.00	12	9.0	4.5	11	7.0	166	88	6.4	.00	.00
3	.00	.00	14	8.0	3.5	14	3.5	218	74	7.0	.00	.00
4	.00	.00	14	8.0	4.0	12	2.2	250	79	5.5	.00	.00
5	.00	.00	6.4	9.0	4.0	9.0	1.8	159	68	3.0	.00	.00
6	.00	.00	9.8	8.5	4.5	8.3	1.6	131	71	2.0	.00	.00
7	.00	.00	11	8.0	4.0	9.0	1.4	90	76	1.4	.00	.00
8	.00	.00	5.9	11	5.0	8.3	1.4	70	74	1.6	.00	.00
9	.00	.00	3.5	13	4.5	7.6	1.2	61	60	1.6	.00	.00
10	.00	.00	3.0	12	4.0	9.0	1.2	50	56	1.2	.00	.00
11	.00	.00	3.5	14	3.5	8.3	1.2	43	50	1.2	.00	.00
12	.00	.00	4.0	16	3.5	11	1.2	35	40	.95	.00	.00
13	.00	.00	4.5	15	4.5	9.8	14	40	34	.95	.00	.00
14	.00	.00	3.5	13	6.0	8.3	29	42	30	1.4	.00	.00
15	.00	.00	3.5	13	5.5	9.8	46	41	25	1.4	.00	.00
16	.00	.00	4.0	11	6.5	9.0	38	56	25	.85	.00	.00
17	.00	.00	4.5	12	8.0	9.0	80	68	22	.56	.00	.00
18	.00	.00	5.0	13	10	9.8	133	74	15	.56	.00	.00
19	.00	.00	4.5	11	12	8.3	111	80	11	.30	.00	.00
20	.00	.00	4.7	9.0	12	9.0	110	82	9.0	.08	.00	.00
21	.00	.00	4.4	9.5	10	11	92	71	7.0	.00	.00	.00
22	.00	.00	5.5	10	8.0	9.8	92	58	5.9	.00	.00	.00
23	.00	.00	11	11	8.5	7.6	107	48	5.5	.00	.00	.00
24	.00	.00	4.7	9.0	9.0	9.0	119	42	5.9	.00	.00	.00
25	.00	.00	5.5	8.0	9.0	5.5	147	43	5.1	.00	.00	.00
26	.00	.00	7.0	6.0	8.3	2.8	168	49	4.1	.00	.00	.00
27	.00	.00	8.3	6.5	9.0	4.4	173	49	3.9	.00	.00	.00
28	.00	1.0	8.3	7.0	5.9	9.8	165	53	3.7	.00	.00	.00
29	.00	4.0	9.8	7.5	---	11	137	70	9.0	.00	.00	.00
30	.00	7.0	8.0	8.0	---	7.6	162	78	9.8	.00	.00	.00
31	.00	---	7.0	6.5	---	9.8	---	66	---	.00	.00	---
TOTAL	.00	12.00	210.8	311.5	182.7	281.8	1954.3	2553	1054.9	46.25	.00	.00
MEAN	.000	.40	6.80	10.0	6.53	9.09	65.1	82.4	35.2	1.49	.000	.000
MAX	.00	7.0	14	16	12	14	173	250	88	8.3	.00	.00
MIN	.00	.00	3.0	6.0	3.5	2.8	1.2	35	3.7	.00	.00	.00
AC-FT	.00	24	418	618	362	559	3880	5060	2090	92	.00	.00

CAL YR 1980 TOTAL 53241.88 MEAN 145 MAX 1200 MIN .00 AC-FT 105600
WTR YR 1981 TOTAL 6607.25 MEAN 18.1 MAX 250 MIN .00 AC-FT 13110

NOTE.--NO GAGE-HEIGHT RECORD DEC. 30 TO FEB. 25.

08249000 CONEJOS RIVER NEAR LASAUSES, CO

LOCATION.--Lat 37°18'01", long 105°44'47", in SW¼SW¼ sec.2, and SE¼NE¼ sec.10 (two channels), T.35 N., R.11 E., Conejos County, Hydrologic Unit 13010005, on left bank of main channel 125 ft (38 m) downstream from bridge on State Highway 158 and on left bank of secondary channel 230 ft (70 m) upstream from bridge on State Highway 158, 1.0 mi (1.6 km) upstream from mouth, 2.1 mi (3.4 km) north of Lasauses, and 13 mi (21 km) southeast of Alamosa.

DRAINAGE AREA.--887 mi^2 (2,297 km^2).

PERIOD OF RECORD.--March 1921 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to Oct. 1, 1966, published as "near La Sauses."

REVISED RECORDS.--WSP 1312: 1934(M).

GAGE.--Two water-stage recorders. Datum of gage on main (north) channel is 7,495.02 ft (2,284.482 m), and on secondary (south) channel is 7,496.89 ft (2,285.052 m), National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service). Main channel: See WSP 1732 for history of changes prior to Oct. 1, 1937. South channel: Prior to Oct. 23, 1934, at bridge 230 ft (70 m) downstream at datum 0.56 ft (0.171 m) lower; Oct. 23, 1934, to May 3, 1936, at site 250 ft (76 m) downstream, and May 4, 1936, to Oct. 13, 1965, at site 280 ft (85 m) downstream, at datum 1.00 ft (0.305 m) lower.

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation of about 75,000 acres (300 km^2) above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--60 years, 179 ft^3/s (5.069 m^3/s), 129,700 acre-ft/yr (160 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,890 ft^3/s (110 m^3/s) May 15, 1941; no flow at times some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 215 ft^3/s (6.09 m^3/s) Apr. 27; no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	14	57	52	39	61	31	141	39	.30	.00	.20
2	7.7	14	50	55	38	67	31	110	26	.24	.00	.11
3	8.0	15	54	55	38	67	25	85	13	.15	.00	.07
4	8.0	16	56	53	36	70	11	117	7.6	.15	.00	.11
5	8.7	16	52	53	40	62	3.9	52	6.0	.11	.00	.26
6	8.7	16	54	55	40	59	3.6	27	6.4	.11	.00	.15
7	8.8	16	57	47	42	62	4.8	19	7.7	.15	.00	.15
8	8.9	16	55	42	40	60	12	9.3	18	.20	.00	.20
9	9.9	16	42	46	46	52	10	4.6	21	.15	.00	.20
10	9.6	17	34	46	42	54	9.9	19	19	.11	.01	.15
11	9.0	19	33	44	40	58	10	25	8.4	.11	.11	.15
12	9.9	19	39	47	40	60	10	20	5.1	.11	.15	.15
13	10	19	55	48	39	58	13	25	2.8	.26	.33	.10
14	11	20	58	44	43	60	11	40	2.6	.50	.20	.10
15	12	38	50	42	50	62	5.7	56	2.8	.83	.11	.10
16	12	45	49	42	48	62	6.9	58	3.2	.50	.07	.05
17	12	40	54	40	50	64	5.3	70	3.1	.41	.04	.05
18	13	42	57	45	54	62	12	79	2.8	.33	.02	.05
19	14	39	62	48	61	62	43	83	3.2	.26	.11	.00
20	13	38	55	41	63	60	57	81	2.5	.15	.26	.00
21	12	35	48	37	66	60	49	72	1.9	.11	.41	.07
22	13	36	50	38	62	60	36	62	1.5	.11	.11	.15
23	13	35	62	41	58	60	45	64	1.2	.11	.04	.07
24	13	42	54	44	62	60	56	62	1.1	.15	.02	.04
25	14	38	48	41	65	62	71	57	.85	.07	.04	.02
26	13	40	50	39	64	60	115	44	.85	.07	.03	.00
27	14	34	58	38	64	60	156	42	.71	.11	.00	.00
28	14	34	60	40	59	54	161	11	.53	.15	.04	.00
29	14	40	64	41	---	42	127	44	.58	.04	.11	.00
30	14	56	62	44	---	39	113	66	.63	.03	.15	.00
31	14	---	52	46	---	34	---	37	---	.00	.26	---
TOTAL	350.0	865	1631	1394	1389	1813	1245.1	1681.9	210.05	6.08	2.62	2.70
MEAN	11.3	28.8	52.6	45.0	49.6	58.5	41.5	54.3	7.00	.20	.085	.090
MAX	14	56	64	55	66	70	161	141	39	.83	.41	.26
MIN	7.7	14	33	37	36	34	3.6	4.6	.53	.00	.00	.00
AC-FT	694	1720	3240	2760	2760	3600	2470	3340	417	12	5.2	5.4

CAL YR 1980 TOTAL 106928.60 MEAN 292 MAX 1550 MIN 7.1 AC-FT 212100
WTR YR 1981 TOTAL 10590.45 MEAN 29.0 MAX 161 MIN .00 AC-FT 21010

08250000 CULEBRA CREEK AT SAN LUIS, CO

LOCATION.--Lat 37°11'02", long 105°25'31", Costilla County, Hydrologic Unit 13010002, in Beaubien Grant, on left bank at bridge 1.0 mi (1.6 km) south of San Luis and 1.0 mi (1.6 km) upstream from Rito Seco.

DRAINAGE AREA.--220 mi^2 (570 km^2).

PERIOD OF RECORD.--April 1927 to current year. Monthly discharge only for some periods, published in WSP 1312. Records for January 1910 to December 1911, published as Culebra River at San Luis in WSP 288 and 308, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 1312: 1940. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 8,000 ft (2,438 m), from topographic map. Prior to May 23, 1931, water-stage recorder at present site at different datum.

REMARKS.--Records good. Diversions above station for irrigation. Flow regulated by Sanchez Reservoir, capacity, 103,000 acre-ft (130 hm^3), on Ventero Creek. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--54 years, 46.0 ft^3/s (1.303 m^3/s), 33,330 acre-ft/yr (41.1 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 654 ft^3/s (18.5 m^3/s) July 1, 1947, gage height, 5.09 ft (1.551 m), from rating curve extended above 300 ft^3/s (8.5 m^3/s); minimum daily, 4.6 ft^3/s (0.13 m^3/s) Oct. 31, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 208 ft^3/s (5.89 m^3/s) at 1800 Aug. 11, gage height, 2.39 ft (0.728 m); minimum daily, 14 ft^3/s (0.40 m^3/s) Feb. 2, Apr. 21-29, Sept. 4, 5, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	22	19	18	15	19	16	41	135	71	116	22
2	19	21	18	18	14	19	16	40	118	28	114	16
3	19	21	21	18	15	21	16	42	102	26	121	17
4	19	21	22	18	16	19	18	42	42	23	117	14
5	18	21	21	18	16	21	20	59	30	17	113	14
6	25	21	22	18	16	21	21	51	92	31	115	18
7	39	21	21	18	16	19	18	41	75	80	113	28
8	40	21	19	18	16	19	16	40	68	82	113	42
9	40	20	18	16	16	19	16	43	63	83	109	42
10	39	20	16	16	15	19	16	41	82	82	69	59
11	39	20	18	16	16	19	16	38	108	83	103	66
12	39	20	18	16	17	19	16	39	116	85	87	83
13	42	21	18	16	16	19	20	38	115	59	73	45
14	42	21	18	16	17	19	18	37	138	18	62	39
15	50	19	17	16	18	19	16	38	121	33	53	32
16	49	19	18	16	19	18	16	63	132	32	56	30
17	51	19	18	16	19	18	16	104	147	71	56	17
18	51	18	18	16	20	18	16	105	148	127	43	16
19	48	18	18	16	20	18	15	122	138	118	32	15
20	46	18	18	16	20	18	15	122	134	112	25	14
21	38	18	18	16	19	18	14	112	132	102	40	24
22	25	18	18	16	18	17	14	97	127	95	96	48
23	24	19	18	16	19	17	14	98	87	104	76	36
24	23	19	18	16	19	17	14	98	40	124	51	17
25	23	18	18	16	19	17	14	98	38	124	49	47
26	24	18	18	16	19	16	14	99	36	105	49	46
27	25	18	19	16	19	16	14	102	48	82	65	43
28	24	18	18	16	19	19	14	111	70	74	63	40
29	24	19	19	16	---	21	14	111	78	72	33	36
30	24	19	18	16	---	19	22	109	87	83	27	36
31	24	---	18	16	---	18	---	112	---	115	24	---
TOTAL	1012	586	576	512	488	576	485	2293	2847	2341	2263	1002
MEAN	32.6	19.5	18.6	16.5	17.4	18.6	16.2	74.0	94.9	75.5	73.0	33.4
MAX	51	22	22	18	20	21	22	122	148	127	121	83
MIN	18	18	16	16	14	16	14	37	30	17	24	14
AC-FT	2010	1160	1140	1020	968	1140	962	4550	5650	4640	4490	1990

CAL YR 1980 TOTAL 19363 MEAN 52.9 MAX 261 MIN 16 AC-FT 38410
WTR YR 1981 TOTAL 14981 MEAN 41.0 MAX 148 MIN 14 AC-FT 29710

08251500 RIO GRANDE NEAR LOBATOS, CO

LOCATION.--Lat 37°04'42", long 105°45'22", in sec.22, T.33 N., R.11 E., Conejos County, Hydrologic Unit 13010002, on right bank at highway bridge, 6 mi (10 km) north of Colorado-New Mexico State line, 7 mi (11 km) downstream from Culebra Creek, 10 mi (16 km) east of Lobatos, and 14 mi (23 km) east of Antonito.

DRAINAGE AREA.--7,700 mi^2 (19,900 km^2), approximately, includes 2,940 mi^2 (7,610 km^2) in closed basin in northern part of San Luis Valley, Colo.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1899 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "at Cenicero" 1899-1901, and as "near Cenicero" 1902-4.

REVISED RECORDS.--WSP 1312: 1919 (monthly runoff). WSP 210: Drainage area. WDR CO-78-1: 1976.

GAGE.--Water-stage recorder. Datum of gage is 7,427.63 ft (2,263.942 m), National Geodetic Vertical Datum of 1929. Prior to 1910, nonrecording gages at same site and datum.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversion for irrigation, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 13,200 ft^3/s (374 m^3/s) June 8, 1905, gage height, 9.1 ft (2.77 m), from rating curve extended above 8,000 ft^3/s (230 m^3/s); no flow at times in 1950-51, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1828, that of June 8, 1905.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 360 ft^3/s (10.2 m^3/s) Dec. 5; maximum gage height, 3.63 ft (1.106 m) at 1300 Jan. 14 (backwater from ice); minimum daily discharge, 21 ft^3/s (0.59 m^3/s) Oct. 3, 6, 7, 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	43	290	290	155	286	82	170	98	65	115	102
2	22	46	325	310	195	294	73	181	100	80	112	110
3	21	46	340	294	200	310	76	139	95	100	95	120
4	22	44	340	286	205	310	62	145	82	118	95	112
5	22	44	360	286	210	302	48	157	80	122	112	102
6	21	43	350	298	210	294	40	157	80	105	100	115
7	21	43	330	270	215	286	41	105	85	92	67	112
8	22	43	255	195	230	294	37	80	73	88	82	100
9	22	41	220	209	230	286	40	60	110	85	90	108
10	21	40	160	216	195	282	41	58	105	67	90	118
11	21	43	180	216	170	282	41	67	128	56	105	115
12	24	46	200	216	215	286	41	69	167	58	108	120
13	25	48	250	215	230	290	41	60	167	100	130	122
14	25	55	280	215	230	290	50	62	195	164	184	115
15	32	69	280	210	240	290	50	76	195	170	174	122
16	32	90	280	180	240	282	46	85	139	139	130	142
17	29	165	315	205	290	286	50	88	122	151	122	136
18	28	185	320	225	315	282	46	100	125	160	130	120
19	28	180	300	250	315	278	67	112	108	133	128	115
20	31	180	325	240	298	278	78	108	90	122	139	110
21	32	185	255	220	294	274	110	105	100	95	128	115
22	32	190	250	230	294	282	80	88	80	80	118	115
23	32	200	295	245	290	278	78	78	69	65	112	102
24	31	220	280	235	290	254	88	80	69	60	105	92
25	33	200	260	225	290	230	100	78	67	67	98	98
26	34	240	274	215	290	192	125	71	67	62	100	95
27	37	230	315	235	290	178	170	62	& 53	110	92	102
28	32	220	320	235	290	160	202	53	48	125	85	118
29	41	250	315	220	---	136	192	36	51	136	80	120
30	40	275	330	240	---	120	167	69	67	151	76	118
31	40	---	302	220	---	100	---	102	---	130	85	---
TOTAL	875	3704	8896	7346	6916	7992	2362	2901	3015	3256	3387	3391
MEAN	28.2	123	287	237	247	258	78.7	93.6	101	105	109	113
MAX	41	275	360	310	315	310	202	181	195	170	184	142
MIN	21	40	160	180	155	100	37	36	48	56	67	92
AC-FT	1740	7350	17650	14570	13720	15850	4690	5750	5980	6460	6720	6730

CAL YR 1980 TOTAL 227711 MEAN 622 MAX 3140 MIN 17 AC-FT 451700
WTR YR 1981 TOTAL 54041 MEAN 148 MAX 360 MIN 21 AC-FT 107200

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1975 to current year.
WATER TEMPERATURES: October 1975 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1975.

REMARKS.--Records good. No record Jan. 13-Feb. 17. Daily maximum and minimum specific-conductance data available in district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,040 micromhos Sept. 17, 18, 1977; minimum, 89 micromhos May 9, 1979.
WATER TEMPERATURE.--Maximum, 30.0°C July 17, 1977; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 709 micromhos Apr. 10; minimum, 167 micromhos Feb. 10.
WATER TEMPERATURES: Maximum, 27.0°C June 6; minimum, 0.0°C on many days during November to April.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN DIS-SOLVED (MG/L AS N)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 02...	1120	22	585	608	8.3	13.5	1.3	9.9	.55	K4	K20
NOV 06...	1230	43	475	499	8.3	12.0	2.5	11.8	.53	K4	130
DEC 10...	1115	120	215	221	7.7	.5	3.4	11.2	.84	K4	66
JAN 14...	1200	E180	230	241	7.2	.5	4.5	12.0	.77	K8	K40
FEB 18...	1300	E275	--	197	7.5	3.0	12	10.6	.52	K4	56
MAR 24...	1100	238	250	246	7.7	7.0	9.4	--	.58	--	--
APR 06...	1400	48	--	567	8.7	3.0	2.7	9.6	.59	<4	<4
MAY 04...	1430	167	--	272	8.8	22.0	6.7	8.9	.93	K11	K15
JUN 09...	1030	102	--	528	8.9	16.5	3.2	6.2	.71	--	K64
JUL 06...	1430	105	--	228	8.2	15.5	8.0	7.8	.89	K20	K12
AUG 11...	1230	105	245	229	8.2	11.0	81	7.8	1.0	--	--
SEP 21...	1345	116	241	246	9.0	19.4	2.5	10.4	1.0	<4	>400

DATE	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 02...	170	51	11	56	1.9	6.5	--	170	16	.8
NOV 06...	150	44	8.9	45	1.6	6.3	--	110	11	.8
DEC 10...	79	25	4.0	14	.7	3.1	82	27	3.3	.3
JAN 14...	84	26	4.7	15	.7	3.0	82	29	3.8	.4
FEB 19...	68	21	3.7	13	.7	2.6	61	26	3.6	.2
MAR 24...	87	27	4.7	17	.8	3.1	75	35	15	.3
APR 06...	170	52	9.9	51	1.7	5.6	140	120	14	.8
MAY 04...	82	25	4.8	23	1.1	4.0	75	44	5.5	.4
JUN 09...	170	51	9.6	46	1.6	6.9	150	100	14	.7
JUL 06...	74	23	4.0	19	1.0	3.9	80	33	4.7	.3
AUG 11...	72	22	4.2	20	1.1	4.4	100	<5.0	4.4	.2
SEP 21...	80	24	4.9	18	.9	4.7	87	30	4.9	.3

E ESTIMATED.
K BASED ON NON-IDEAL COLONY COUNT.

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
OCT										
02...	22	406	405	.55	24.1	.00	.00	.010	.000	.96
NOV										
06...	22	326	326	.44	37.8	.00	.00	.130	.130	.58
DEC										
10...	24	168	156	.23	54.4	.28	.28	.020	.000	.70
JAN										
14...	32	171	164	.23	83.1	.21	.22	.060	.020	.71
FEB										
18...	26	133	134	.18	--	.16	.17	.160	.160	.22
MAR										
24...	27	161	175	.22	103	.13	.16	.080	.070	.55
APR										
06...	29	377	367	.51	48.9	.09	.11	.060	.070	1.0
MAY										
04...	22	196	175	.27	88.4	.00	.22	.050	.110	.82
JUN										
09...	22	347	341	.47	95.6	.01	.03	.090	.090	.85
JUL										
06...	25	154	161	.21	43.7	.03	.04	.100	.100	1.3
AUG										
11...	23	166	143	.23	47.1	.10	.07	.300	.170	.70
SEP										
21...	23	167	162	.23	52.3	<.10	<.10	.200	.250	.54

DATE	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)
OCT										
02...	.55	.97	.55	.97	.020	.020	--	7.7	--	--
NOV										
06...	.40	.71	.53	.71	.070	.080	5.7	--	--	2200
DEC										
10...	.56	.72	.56	1.0	.100	.110	3.9	--	--	--
JAN										
14...	.53	.77	.55	.98	.110	.090	5.9	--	--	--
FEB										
18...	.19	.38	.35	.54	.130	.120	--	--	--	--
MAR										
24...	.35	.63	.42	.76	.150	.100	--	5.8	--	6600
APR										
06...	.41	1.10	.48	1.2	.240	.210	8.4	--	--	--
MAY										
04...	.60	.87	.71	.87	.210	.160	10	--	--	12000
JUN										
09...	.59	.94	.68	.95	.510	.410	--	36	--	0
JUL										
06...	.75	1.40	.85	1.4	.300	.230	7.0	--	--	110000
AUG										
11...	.80	1.00	.97	1.1	.420	.190	--	16	--	58000
SEP										
21...	.42	.74	.67	.71	.200	.170	--	5.1	.7	9500

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)
OCT										
02...	4	4	0	70	0	1	0	0	0	<3
MAR										
24...	2	1	0	40	0	<1	10	10	0	<3
JUN										
09...	6	6	0	100	1	<1	10	0	1	<3
AUG										
11...	3	4	100	40	1	<1	60	0	33	<3

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
OCT										
02...	6	3	150	30	5	5	30	10	.0	.0
MAR										
24...	3	4	890	70	3	2	110	30	.0	.3
JUN										
09...	7	6	640	130	19	3	220	80	2.0	2.0
AUG										
11...	10	8	4200	210	3	0	310	29	.3	.2

DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
OCT										
02...	12	3	1	0	0	0	0	20	6	.00
MAR										
24...	<10	0	1	0	0	0	0	40	30	.00
JUN										
09...	<10	3	2	0	0	0	0	60	70	.00
AUG										
11...	--	22	14	0	0	0	0	20	27	.00

DATE	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)	URANIUM DIS-SOLVED, EXTRAC-TION (UG/L)
JUN									
09...	<7.4	1.1	8.2	.6	7.8	.5	.05	--	2.4
SEP									
21...	<3.5	<.4	4.2	.6	4.1	.6	.07	1.1	--

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV					
06...	1230	43	8	.93	--
DEC					
10...	1115	120	27	8.7	--
MAR					
24...	1100	238	39	25	84
APR					
06...	1415	48	414	54	11
MAY					
04...	1430	167	28	13	--
JUN					
09...	1030	102	15	4.1	85
JUL					
06...	1410	105	20	5.7	99
AUG					
11...	1230	105	177	50	87
SEP					
21...	1345	116	11	3.4	--

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	556	523	202	201	---	210	577	235	353	380	223	243
2	578	516	200	206	---	221	630	207	415	362	229	222
3	582	496	200	205	---	219	671	213	439	342	229	208
4	573	481	200	207	---	217	684	269	472	298	226	211
5	563	475	199	207	---	226	480	280	571	259	235	209
6	575	480	202	205	---	227	570	357	510	230	245	226
7	574	480	208	209	---	232	603	347	510	240	242	226
8	576	484	198	210	---	234	661	413	524	246	235	227
9	562	486	197	225	---	233	685	514	530	266	240	242
10	559	486	204	231	---	235	699	574	452	280	236	244
11	560	483	218	237	---	236	665	630	420	305	230	236
12	563	487	234	228	---	237	649	601	414	321	244	225
13	555	481	234	---	---	242	637	539	324	321	245	225
14	544	469	219	---	---	239	616	541	300	258	217	233
15	530	476	209	---	---	239	624	530	259	196	199	233
16	521	400	204	---	---	241	613	453	265	207	209	237
17	524	308	196	---	---	240	632	383	306	225	227	213
18	514	232	196	---	176	239	626	362	328	216	246	233
19	511	228	194	---	176	241	609	359	323	219	235	256
20	521	229	194	---	177	239	474	336	346	222	224	246
21	520	239	198	---	183	243	394	339	383	233	214	245
22	515	243	200	---	179	249	326	331	391	245	210	241
23	505	243	203	---	180	247	377	318	389	266	225	231
24	507	234	198	---	189	253	383	319	386	278	237	237
25	511	236	201	---	199	272	346	320	391	293	247	257
26	512	226	203	---	204	323	317	336	391	302	261	274
27	494	219	206	---	207	377	254	344	381	302	243	260
28	488	223	200	---	206	323	221	347	365	251	237	252
29	494	220	200	---	---	440	211	347	373	200	244	245
30	500	215	197	---	---	492	219	396	383	198	246	242
31	509	---	198	---	---	538	---	377	---	197	242	---

08251500 RIO GRANDE NEAR LOBATCS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.5	9.0	13.0	2.0	1.5	.0	2.5	.5	---	---	8.0	2.5
2	21.0	9.5	13.5	2.0	.5	.0	3.0	.5	---	---	7.5	3.0
3	20.5	7.5	12.5	2.0	1.0	.0	3.0	.5	---	---	7.0	3.5
4	20.5	7.5	13.0	2.0	1.5	.0	2.5	.5	---	---	7.5	2.5
5	20.0	7.0	14.0	2.5	1.5	.0	3.0	.5	---	---	10.0	3.0
6	19.5	7.5	13.5	3.0	1.5	.5	3.0	.5	---	---	5.5	2.5
7	20.0	8.5	13.0	2.0	3.5	.5	2.0	.5	---	---	6.5	1.5
8	19.5	8.0	11.0	3.0	1.5	.5	1.5	.5	---	---	9.5	2.5
9	19.5	8.0	11.5	2.0	1.0	.5	2.0	.5	---	---	9.5	2.5
10	16.5	7.0	12.0	2.0	1.5	.5	1.5	.5	---	---	8.0	3.5
11	16.5	5.5	12.5	1.5	1.5	.5	2.0	.5	---	---	7.0	3.5
12	17.0	7.0	10.5	3.0	1.5	1.0	5.0	.5	---	---	9.5	2.5
13	15.5	8.0	10.0	4.5	1.5	1.0	---	---	---	---	11.0	3.5
14	11.5	7.0	7.0	1.0	1.5	.5	---	---	---	---	7.5	3.5
15	9.5	3.5	4.0	.0	1.5	.5	---	---	---	---	11.0	3.5
16	9.0	1.5	2.0	.0	2.0	.5	---	---	---	---	10.5	3.5
17	9.5	.0	1.0	.0	2.5	.5	---	---	---	---	7.0	2.5
18	12.5	1.0	1.0	.0	2.5	.5	---	---	3.5	.0	8.5	1.5
19	13.5	2.0	1.5	.0	1.5	.5	---	---	6.0	.5	10.0	2.5
20	14.0	2.0	1.0	.0	1.0	.5	---	---	7.5	1.5	8.5	3.5
21	14.5	2.0	1.0	.0	2.0	.5	---	---	6.0	1.0	6.5	1.5
22	14.0	2.5	.5	.0	2.0	.5	---	---	5.5	.5	10.0	1.5
23	12.0	2.0	.5	.0	2.5	.5	---	---	7.0	.5	12.0	4.0
24	12.0	1.0	.5	.0	2.0	.5	---	---	8.0	1.5	9.5	4.5
25	13.0	1.5	.5	.0	3.0	.5	---	---	8.0	1.0	11.0	3.0
26	6.5	1.0	.5	.0	3.0	.5	---	---	7.0	1.5	10.0	3.0
27	7.0	.0	1.0	.0	3.0	.5	---	---	5.0	1.5	7.0	2.5
28	10.0	.0	1.0	.0	2.0	.5	---	---	6.5	.5	7.5	2.0
29	11.0	1.0	1.5	.0	2.5	.5	---	---	---	---	10.5	1.5
30	12.5	1.0	1.5	.0	2.0	.5	---	---	---	---	8.5	1.5
31	13.5	1.5	---	---	2.5	.5	---	---	---	---	8.0	1.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.0	.5	20.0	13.0	22.5	13.5	15.0	8.5	15.0	10.0	22.0	12.0
2	7.5	.0	20.5	13.5	25.0	12.5	17.5	8.0	18.0	8.5	22.0	12.0
3	4.5	.0	21.0	14.5	19.0	14.0	18.0	9.0	18.0	9.5	20.0	13.5
4	3.0	.0	22.0	14.0	24.5	12.5	18.0	8.5	19.0	9.0	19.5	12.5
5	7.0	.0	19.5	12.5	25.0	14.5	17.5	8.0	17.5	8.0	19.0	13.0
6	8.0	.0	18.0	10.5	27.0	16.0	17.5	7.5	19.0	10.0	20.0	11.5
7	3.0	1.0	18.0	9.0	24.5	15.0	15.5	6.5	17.5	9.5	20.0	14.0
8	4.0	1.5	16.5	7.0	23.5	14.5	16.5	6.0	17.5	7.5	19.5	13.5
9	6.5	2.0	19.0	5.5	24.0	14.0	16.0	7.5	13.0	8.0	23.0	13.5
10	7.5	2.5	19.5	7.5	24.5	14.0	14.5	6.5	14.5	7.0	22.0	15.0
11	8.0	3.0	17.0	9.0	23.0	14.0	15.0	7.5	14.0	7.5	22.0	14.0
12	7.0	3.5	15.0	8.5	21.5	13.5	15.0	7.0	15.5	8.5	21.5	14.0
13	11.5	4.0	22.0	10.0	19.5	11.0	16.0	6.5	14.5	8.5	22.5	14.0
14	7.0	4.5	18.5	9.5	17.0	11.0	15.0	8.5	16.5	9.0	23.5	14.0
15	8.0	5.0	15.0	11.0	18.5	8.5	14.5	7.5	16.0	12.0	23.5	15.5
16	14.5	5.5	16.5	8.5	19.0	9.5	16.5	8.0	17.5	10.5	23.5	16.0
17	17.5	6.0	14.0	7.0	18.0	8.0	15.0	9.5	17.5	9.5	23.5	15.0
18	14.0	6.5	21.0	8.0	18.0	9.0	15.5	8.5	19.0	9.5	23.5	15.5
19	13.5	7.0	19.0	10.0	19.5	8.0	18.0	8.0	19.0	10.5	24.0	15.5
20	13.0	7.5	17.0	10.5	20.5	10.0	18.5	6.5	20.0	11.5	24.0	14.5
21	13.5	8.0	18.0	9.5	21.5	10.0	18.5	8.0	20.0	12.5	19.5	8.5
22	16.5	8.5	20.0	9.0	21.5	10.5	16.0	7.5	18.0	11.5	12.5	6.5
23	19.0	9.0	20.5	10.5	18.5	11.0	14.0	7.0	20.0	10.0	13.5	6.5
24	20.5	9.5	19.0	11.5	18.5	10.0	17.0	6.5	18.5	11.0	15.0	7.5
25	21.0	10.0	21.0	10.5	19.5	10.0	15.0	7.0	21.0	11.0	14.0	6.5
26	18.5	10.5	20.5	11.5	19.5	9.0	11.5	7.0	21.5	12.0	16.5	7.0
27	19.0	11.0	22.0	12.5	18.5	9.5	15.5	6.0	19.0	12.0	16.5	6.5
28	19.5	11.5	21.0	13.0	16.0	8.5	17.5	8.5	20.0	11.0	16.5	8.5
29	20.0	12.0	20.5	10.5	15.5	9.5	18.0	8.5	21.5	11.5	15.5	9.5
30	23.5	12.5	24.0	11.5	20.0	8.5	16.5	8.0	21.5	12.0	13.5	10.0
31	---	---	23.0	13.0	---	---	17.5	8.0	20.5	13.0	---	---

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued
PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO JUNE 1981

	NOV 6,80	MAR 24,81	MAY 4,81	JUN 9,81
DATE				
TIME	1230	1100	1450	1030
TOTAL CELLS/ML	2600	6800	12000	0
DIVERSITY: DIVISION	1.8	1.6	1.3	0.0
.CLASS	1.8	1.8	1.3	0.0
..ORDER	2.7	1.5	2.1	0.0
...FAMILY	3.0	3.3	2.8	0.0
....GENUS	3.6	3.8	2.8	0.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	270	4	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	13	1	--	-	--	-	--	-
....MICRACTINIUM	65	3	170	3	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	52	2	34	1	140	1	--	-
....GLOEOACTINIUM	--	-	--	-	140	1	--	-
....OOCYSTIS	13	1	69	1	--	-	--	-
....SELENASTRUM	52	2	--	-	--	-	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	91	4	480	7	280	2	--	-
....TETRASTRUM	--	-	270	4	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	39	2	--	-	--	-	--	-
....CHLAMYDOMONAS	100	5	410	6	700	6	--	-
....CHLOROGONIUM	26	1	--	-	--	-	--	-
...PHACOTACEAE								
....PTEROMONAS	--	-	100	2	--	-	--	-
...SPONDYLOMORACEAE								
....SPONDYLOMORUM	--	-	--	-	1100	9	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	310	14	240	4	5000#	42	--	-
....STEPHANODISCUS	390#	18	--	-	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....COCCONEIS	--	-	100	2	70	1	--	-
...CYMBELLACEAE								
....AMPHORA	--	-	34	1	--	-	--	-
....CYMBELLA	--	-	34	1	--	-	--	-
....EPITHEMIA	--	-	69	1	70	1	--	-
...DIATOMACEAE								
....DIATOMA	--	-	69	1	70	1	--	-
...FRAGILARIACEAE								
....FRAGILARIA	13	1	1800#	27	980	8	--	-
....HANNAEA	--	-	34	1	--	-	--	-
....SYNEDRA	--	-	340	5	--	-	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	26	1	240	4	--	-	--	-
...NAVICULACEAE								
....CALONEIS	--	-	69	1	--	-	--	-
....NAVICULA	--	-	480	7	420	3	--	-
....NEIDIUM	--	-	34	1	--	-	--	-
....PINNULARIA	--	-	34	1	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	400#	18	790	12	1900#	16	--	-
...SURIRELLACEAE								
....CYMATOPLEURA	--	-	34	1	--	-	--	-
....SURIRELLA	--	-	170	3	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	39	2	--	-	280	2	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	78	4	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	230	11	--	-	770	6	--	-
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	130	6	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	26	1	--	-	--	-	--	-
....TRACHELOMONAS	78	4	210	3	140	1	--	-

NOTE: # = DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* = OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

PHYTOPLANKTON ANALYSES, JULY 1981 TO SEPTEMBER 1981

DATE	JUL 8,81	AUG 11,81	SEP 21,81
TIME	1430	1230	1345
TOTAL CELLS/ML	110000	58000	9500
DIVERSITY: DIVISION	1.0	1.2	1.4
.CLASS	1.0	1.2	1.4
..ORDER	1.4	1.4	1.7
...FAMILY	2.7	2.7	2.4
....GENUS	3.3	3.4	2.8

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..						
...COCCOMYXACEAE						
....ELAKATOTHRIX	1500	1	--	-	--	-
..CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	2300	2	--	-	240	3
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	5200	9	460	5
...MICRACTINIACEAE						
....MICRACTINIUM	33000#	30	1700	3	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	2000	2	640	1	120	1
....CHODATELLA	--	-	*	0	--	-
....DICTYOSPHAERIUM	5800	5	--	-	--	-
....FRANCEIA	--	-	*	0	--	-
....GLOEOACTINIUM	--	-	4300	7	120	1
....KIRCHNERIELLA	1200	1	--	-	*	0
....OOCYSTIS	5800	5	--	-	--	-
....QUADRIGULA	--	-	1100	2	--	-
....SELENASTRUM	--	-	--	-	*	0
....TETRAEDRON	*	0	--	-	61	1
....TREUBARIA	580	1	--	-	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	13000	12	5200	9	--	-
....CRUCIGENIA	1200	1	--	-	--	-
....SCENEDESMUS	4700	4	19000#	33	3700#	39
....TETRASTRUM	3500	3	1700	3	730	8
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	1200	1	*	0	180	2
...PHACOTACEAE						
....COCCOMONAS	--	-	--	-	*	0
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	6400	6	4700	8	1100	12
....MELOSIRA	--	-	860	1	61	1
...RHIZOSOLENIACEAE						
....RHIZOSOLENIA	--	-	--	-	*	0
..PENNALES						
...ACHNANTHACEAE						
....COCCONEIS	*	0	*	0	--	-
...CYMBELLACEAE						
....EPITHEMIA	*	0	*	0	*	0
...FRAGILARIACEAE						
....ASTERIONELLA	1200	1	--	-	--	-
....FRAGILARIA	--	-	1500	3	340	4
....SYNEDRA	580	1	*	0	61	1
...NAVICULACEAE						
....CALONEIS	--	-	*	0	--	-
....NAVICULA	*	0	1500	3	--	-
...NITZSCHIACEAE						
....NITZSCHIA	22000#	20	4700	8	180	2
...SURIRELLACEAE						
....CYMATOPLEURA	--	-	*	0	--	-
.XANTHOPHYCEAE						
..HETEROCOCCALES						
...CHLOROTHECIACEAE						
....OPHIOCYTIUM	*	0	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	*	0	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	*	0	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	1200	1	4100	7	1900#	20
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....TRACHELOMONAS	*	0	--	-	--	-

NOTE: # - DOMINANT ORGANISM, EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

08252000 RIO GRANDE AT COLORADO-NEW MEXICO STATE LINE

LOCATION.--Lat 37°00'03", long 105°43'19", Costilla County. Hydrologic Unit 13010002, in Sangre de Cristo Grant. on left bank 0.6 mi (1.0 km) upstream from Colorado-New Mexico State line. 1.7 mi (2.7 km) upstream from Costilla Creek. and 5.5 mi (8.8 km) west of Jaroso.

PERIOD OF RECORD.--October 1953 to current year.

REVISED RECORDS.--WSP 1732: 1954(M). WDR CO 78-1: 1976.

GAGE.--Water-stage recorder. Altitude of gage is 7.390 ft (2.252 m). from topographic map.

REMARKS.--Records good except those for winter period. which are fair. Natural flow of stream affected by transmountain diversions. storage reservoirs. ground-water withdrawals and diversions for irrigation. and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge. 5.000 ft^3/s (142 m^3/s) June 10. 1979. gage height. 7.77 ft (2.368 m); no flow at times in 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 8. 1905. reached a daily discharge of 13.100 ft^3/s (371 m^3/s) at station near Lobatos 5.8 mi (9.3 km) upstream. was probably the greatest since at least 1828. based on information from area residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge. 421 ft^3/s (11.9 m^3/s) at 1530 Dec. 6. gage height. 2.69 ft (0.820 m); minimum daily. 21 ft^3/s (0.59 m^3/s) Oct. 3-6.

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	42	285	295	175	274	99	138	99	64	115	97
2	22	44	315	305	185	277	88	155	92	61	108	106
3	21	46	335	295	200	305	84	130	97	84	99	112
4	21	44	345	290	205	308	84	120	86	90	88	125
5	21	44	345	285	210	302	66	143	78	110	101	106
6	21	46	349	295	210	289	52	135	76	95	103	108
7	22	47	349	275	215	280	47	103	82	86	82	118
8	23	46	275	215	225	286	44	76	72	80	78	106
9	24	47	230	205	230	283	42	63	90	78	90	106
10	24	47	166	215	210	274	50	55	106	68	92	118
11	22	48	175	215	180	277	46	55	106	61	101	120
12	23	52	195	215	210	280	47	66	149	63	99	120
13	25	54	230	215	225	286	46	61	152	72	115	130
14	27	55	275	215	230	289	46	57	163	135	155	120
15	30	76	280	210	240	289	48	68	204	166	180	120
16	33	85	280	185	240	286	46	80	138	141	138	138
17	29	145	305	200	280	283	48	82	115	132	130	143
18	29	180	320	220	310	286	47	90	112	149	128	130
19	30	180	305	245	315	283	48	106	101	130	128	120
20	33	180	320	240	310	277	84	103	84	120	132	115
21	34	185	275	225	305	280	88	103	82	97	132	112
22	35	185	252	225	295	283	90	92	80	82	120	118
23	35	190	285	240	286	283	72	84	66	72	115	108
24	36	215	285	235	283	261	74	84	61	64	103	97
25	36	205	265	230	283	246	84	84	61	64	99	92
26	38	235	270	220	277	201	95	80	61	64	97	92
27	40	235	305	230	286	183	138	68	54	88	97	95
28	42	225	320	235	280	180	172	64	46	122	90	103
29	35	240	315	225	---	157	169	48	48	125	86	112
30	42	270	325	235	---	130	149	52	54	143	82	112
31	41	---	310	225	---	120	---	101	---	132	82	---
TOTAL	917	3693	8886	7360	6900	8038	2293	2746	2815	3038	3365	3399
MEAN	29.6	123	287	237	246	259	76.4	88.6	93.8	98.0	109	113
MAX	42	270	349	305	315	308	172	155	204	166	180	143
MIN	21	42	166	185	175	120	42	48	46	61	78	92
AC-FT	1820	7330	17630	14600	13690	15940	4550	5450	5580	6030	6670	6740

CAL YR 1980 TOTAL 223646 MEAN 611 MAX 3040 MIN 16 AC-FT 443600
WTR YR 1981 TOTAL 53450 MEAN 146 MAX 349 MIN 21 AC-FT 106000

TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO

There are 20 tunnels or ditches, all of which are equipped with water-stage recorders and Parshall flumes or sharp-crested weirs. Records furnished by Colorado Division of Water Resources. The locations of these diversions are given in the following list.

09010000 Grand River ditch diverts water from tributaries of Colorado River to La Poudre Pass Creek (tributary to Cache la Poudre River) in NW¼ sec.21, T.6 N., R.75 W., in Platte River basin. Two collection ditches beginning at headgates located in sec.28, T.5 N., R.76 W., and sec.29, T.6 N., R.75 W., intercept all tributaries upstream on each side of the Colorado River and converge at La Poudre Pass.
REVISIONS (WATER YEARS).--WSP 1313: 1912-27.

09013000 Alva B. Adams tunnel diverts water from Grand Lake and Shadow Mountain Lake in NW¼ sec.9, T.3 N., R.75 W., in Colorado River basin, to Lake Estes (Big Thompson River) in sec.30, T.5 N., R.72 W., in Platte River basin. For daily discharge, see elsewhere in this report.

09021500 Berthoud Pass ditch diverts water from tributaries of Fraser River between headgate in sec.33, T.2 S., R.75 W., and Berthoud Pass, in Colorado River basin, to Hoop Creek (tributary to West Fork Clear Creek) in sec.10, T.3 S., R.75 W., in Platte River basin.

09022500 Moffat water tunnel diverts water from tributaries of Williams Fork (via August P. Gumlick and Vasquez tunnels, beginning in 1959) between headgates (in secs.20 and 29, T.3 S., R.76 W.) and west portal of August P. Gumlick tunnel (in sec.28, T.3 S., R.76 W.) and from the main stem and tributaries of Fraser River between headgates (in sec.8, T.2 S., R.76 W., and sec.24, T.1 S., R.75 W.) and west portal of Moffat tunnel (in sec.11, T.2 S., R.75 W.), in Colorado River basin, to South Boulder Creek, in sec.2, T.2 S., R.74 W., in Platte River basin. (See sta. 09036000 for diversions by August P. Gumlick tunnel.)

09042000 Hoosier Pass tunnel diverts water from tributaries of Blue River in Colorado River basin to Montgomery Reservoir (Middle Fork South Platte River) in sec.14, T.8 S., R.78 W., in Platte River basin; this water is again diverted to South Catamount Creek (tributary to Catamount Creek) in SE¼ sec.14, T.13 S., R.69 W., in the Arkansas River basin. Collection conduits extending from the right bank of Crystal Creek (tributary to Spruce Creek) in sec.14, T.7 S., R.78 W., right bank of Spruce Creek in sec.23, T.7 S., R.78 W., right bank of McCullough Gulch in sec.26, T.7 S., R.78 W., right bank of Monte Cristo Creek in SW¼NE¼ sec.2, T.8 S., R.78 W., left bank of Bemrose Creek in SW¼SW¼ sec.6, T.8 S., R.77 W., and intercepting intermediate tributaries, transport diversions to north portal of the tunnel.

09050590 Harold D. Roberts tunnel diverts water from Dillon Reservoir (Blue River) in sec.18, T.5 S., R.77 W., in Blue River basin, to North Fork South Platte River (tributary to South Platte River) in SW¼SW¼ sec.4, T.7 S., R.74 W., in Platte River basin. Figures include a small amount of ground-water inflow between Dillon Reservoir and east portal of tunnel.

09061500 Columbine ditch diverts water from tributaries of Eagle River in sec.5, T.8 S., R.79 W., in Colorado River basin to Chalk Creek (tributary to East Fork Arkansas River) in NW¼ sec.9, T.8 S., R.79 W., in Arkansas River basin.

09062000 Ewing ditch diverts water from Piney Creek in sec.11, T.8 S., R.80 W., in Eagle River basin, to Thayer Gulch (tributary to Tennessee Creek) in sec.11, T.8 S., R.80 W., in Arkansas River basin.

09062500 Wurtz ditch diverts water from tributaries of Eagle River between headgate in sec.32, T.7 S., R.80 W., and Tennessee Pass, in Colorado River basin, to West Tennessee Creek (tributary to Tennessee Creek) in sec.17, T.8 S., R.80 W., in Arkansas River basin.

09063700 Homestake tunnel diverts water from Homestake Lake (Middle Fork Homestake Creek), in sec.17, T.8 S., R.81 W., in Eagle River basin, to Lake Fork in sec.9, T.9 S., R.81 W., in Arkansas River basin. Water is imported to Homestake Lake from tributaries of Homestake Creek by collection conduits that extend from right bank of French Creek in sec.28, T.7 S., R.81 W., and left bank of East Fork Homestake Creek in sec.9, T.8 S., R.81 W., and intercept intermediate tributaries.

09073000 Twin Lakes tunnel diverts water from tributaries of Roaring Fork River between headgates (in sec.21, T.11 S., R.83 W., and sec.2, T.11 S., R.83 W.), and west portal of Twin Lakes tunnel (in sec.24, T.11 S., R.83 W), in Colorado River basin, to North Fork Lake Creek in sec.22, T.11 S., R.82 W., in Arkansas River basin.

TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO--Continued

09077160 Charles H. Boustead Tunnel diverts water from the main stem and tributaries of Fryingpan River (tributary to Roaring Fork River), in Colorado River basin, to Lake Fork in sec.10, T.9 S., R.81 W., in Arkansas River basin. Water is transported to west portal of tunnel (at lat 39°14'44", long 106°31'47"), by a series of collection conduits extending between headgates on right bank of Sawyer Creek at lat 39°15'58", long 106°38'19", and right bank of Fryingpan River at lat 39°14'40", long 106°31'49", and intercepting intermediate tributaries.

09077500 Busk-Ivanhoe tunnel diverts water from Ivanhoe Lake (Ivanhoe Creek), tributary to Fryingpan River in sec.13, T.9 S., R.82 W., in Roaring Fork River basin, to Busk Creek (tributary to Lake Fork) in sec.20, T.9 S., R.81 W., in Arkansas River basin.

09115000 Larkspur ditch diverts water from tributaries of Tomichi Creek between headgates (in sec.11, T.48 N., R.6 E., and sec.1, T.47 N., R.6 E.), and Marshall Pass, in Gunnison River basin, to Poncha Creek (tributary to South Arkansas River) in SE¼ sec.24, T.48 N., R.6 E., in Arkansas River basin.

09118200 Tarbell ditch diverts water from Lake Fork Cochetopa Creek (tributary to Cochetopa Creek), in NW¼ sec.18, T.43 N., R.2 E., in Gunnison River basin, to Lake Fork Saguache Creek (tributary to Middle Fork Saguache Creek) in NE¼ sec.19, T.43 N., R.2 E., in Rio Grande Basin. All records available prior to October 1960 published in WSP 1733.

REVISIONS (WATER YEARS).--WSP 1733: 1949-51.

09121000 Tabor ditch diverts water from tributaries of Cebolla Creek in secs.29 and 36, T.43 N., R.3 W., in Gunnison River basin, to Big Spring Creek (tributary to North Clear Creek) in sec.35, T.43 N., R.3 W., in Rio Grande basin.

09341000 Treasure Pass diversion ditch diverts water from tributaries of Wolf Creek between headgates (in sec.31, T.38 N., R.2 E., and sec.6, T.37 N., R.3 E.), and Wolf Creek Pass, in San Juan River basin, to tributary of South Fork Rio Grande in sec.31, T.38 N., R.2 E., in Rio Grande basin.

09347000 Don La Font ditches 1 and 2 divert water from tributaries of Piedra River between headgates in NW¼ sec.4, T.38 N., R.1 W., and SW¼ sec.33, T.39 N., R.1 W.), and Piedra Pass, in San Juan River basin, to South River in sec.4, T.38 N., R.1 W., in Rio Grande basin.

09351000 Pine River-Weminuche Pass ditch diverts water from North Fork Los Pinos River (tributary to Los Pinos River) in sec.4, T.39 N., R.4 W., in San Juan River basin, to Weminuche Creek in sec.33, T.40 N., R.4 W., in Rio Grande basin.

09351500 Weminuche Pass ditch diverts water from left bank of Rincon la Vaca Creek (tributary to Los Pinos River) in sec.5, T.39 N., R.4 W., in San Juan River basin, to Weminuche Creek in sec.33, T.40 N., R.4 W., in Rio Grande basin.

TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Water year
TO PLATTE RIVER BASIN													
09010000 Grand River ditch...	0	0	0	0	0	0	69	1,600	8,210	3,160	650	22	13,700
09013000 Alva B. Adams tunnel	15,170	18,140	16,630	24,370	27,060	23,570	16,210	17,070	14,360	28,160	27,880	24,140	252,800
09021500 Berthoud Pass ditch.	0	0	0	0	0	0	0	15	323	116	22	0	463
09022500 Moffat water tunnel.	853	906	761	491	373	411	1,690	7,080	27,160	8,140	2,640	3,420	53,920
09050590 Harold D. Roberts tunnel............	13,600	9,150	6,110	9,080	6,700	3,310	0	12,690	15,530	14,700	14,920	4,410	110,200
Total.......................	29,620	28,200	23,500	33,940	34,130	27,290	17,970	38,440	65,580	54,280	46,110	31,990	431,050
TO ARKANSAS RIVER BASIN													
09042000 Hoosier Pass tunnel.	0	0	0	0	0	0	40	733	3,100	745	774	257	5,650
09061500 Columbine ditch.....	0	0	0	0	0	0	3.8	173	629	85	30	0	921
09062000 Ewing ditch.........	0	0	0	0	0	0	21	81	155	79	50	43	428
09062500 Wurtz ditch.........	0	0	0	0	0	0	23	314	453	61	0	0	851
09063700 Homestake tunnel....	0	0	270	6,140	5,550	9,110	218	0	0	0	0	0	21,290
09073000 Twin Lakes tunnel...	122	12	23	26	22	24	527	5,640	19,490	5,140	1,720	1,580	34,330
09077160 Charles H. Boustead Tunnel............	0	0	0	0	0	0	583	8,100	23,500	2,000	0	0	34,180
09077500 Busk-Ivanhoe tunnel.	28	83	0	0	0	0	89	717	2,750	484	204	204	4,560
09115000 Larkspur ditch......	18	0	0	0	0	0	0	0	42	72	13	0	127
Total.......................	150	95	296	6,170	5,570	9,130	1,500	15,760	50,120	8,670	2,790	2,080	102,330
TO RIO GRANDE BASIN													
09118200 Tarbell ditch.......	0	0	0	0	0	0	0	23	48	97	95	28	291
09121000 Tabor ditch.........	0	0	0	0	0	0	35	124	201	175	136	0	671
09341000 Treasure Pass diversion ditch........	0	0	0	0	0	0	1.7	17	202	12	0	0	233
09347000 Don La Font ditches No. 1 and 2.......	0	0	0	0	0	0	0	0	135	42	35	2.8	215
09351000 Pine River-Weminuche Pass ditch........	0	0	0	0	0	0	0	108	182	71	0	0	361
09351500 Weminuche Pass ditch	0	0	0	0	0	0	0	511	1,090	378	0	0	1,980
Total.......................	0	0	0	0	0	0	37	783	1,860	775	266	31	3,750
Grand Total.................	29,770	28,300	23,800	40,110	39,700	36,420	19,510	54,980	117,560	63,720	49,170	34,100	537,130

NOTE: Due to method of computing water year figures and rounding procedures, totals do not agree.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of streamflow-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than streamflow-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a second table.

CREST-STAGE PARTIAL-RECORD STATIONS

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1980

Station number	Station name	Location	Total drainage area (mi²)	Non-contributing	Period of record	Annual maximum		
						Date	Gage height (feet)	Discharge (ft³/s)
		PLATTE RIVER BASIN						
06708500	Deer Creek near Littleton, CO	Lat 39°32'56", long 105°07'59", in NE¼NE¼ sec.8, T.6 S., R.69 W., Jefferson County, 70 ft (21.3 m) upstream from county bridge over Deer Creek, 7.5 mi (12.1 km) southwest of Littleton.	26.2	-	1942-46, 1978-81	1981	4.78	14
06710200	Big Dry Creek tributary at Littleton, CO	Lat 39°35'46", long 104°57'06", in SE¼SW¼ sec.24, T.5 S., R.68 W., Arapahoe County, 500 ft (150 m) upstream from S. Clayton St., 1 mi (2 km) east of Littleton.	0.95	-	1969-81	5-28-81	13.91	288
06710350	Bear Creek near Evergreen, CO	Lat 39°38'11", long 105°20'51", in NW¼NW¼ sec.9, T.5 S., R.71 W., Jefferson County, 1.4 mi (2.3 km) upstream from confluence with Evergreen Lake, 1.6 mi (2.6 km) northwest of Evergreen.	96.6	-	1978-81	1981	6.13	105
06710400	Cub Creek at Evergreen, CO	Lat 39°37'50", long 105°19'16", in NW¼SE¼ sec.10, T.5 S., R.71 W., Jefferson County, 0.1 mi (0.2 km) upstream from confluence with Bear Creek.	22.2	-	1978-81	1981	6.86	96
06710600	Mt. Vernon Creek near Morrison, CO	Lat 39°40'49", long 105°11'50", in NW¼NW¼ sec.26, T.4 S., R.70 W., Jefferson County, 1.9 mi (3.1 km) north of Morrison.	7.58	-	1978-81	1981	8.83	23
06710990	Parmalee Gulch at mouth at Indian Hills, CO	Lat 39°36'57", long 105°13'54", in NW¼SE¼ sec.16, T.5 S., R.70 W., Jefferson County, 20 ft (6.1 m) upstream from box type culvert beneath U.S. Highway 285.	5.80	-	1978-81	1981	8.71	7.0
06711000	Turkey Creek near Morrison, CO	Lat 39°37'22", long 105°11'13", in NE¼NE¼ sec.14, T.5 S., R.70 W., Jefferson County, 2.2 mi (3.5 km) southwest of Morrison.	48.0	-	1942-53 1969 1978-81	1981	9.23	15
06711600	Sanderson Gulch tributary at Lakewood, CO	Lat 39°41'19", long 105°04'54", in NE¼SW¼ sec.23, T.4 S., R.68 W., Jefferson County, 300 ft (91 m) upstream from S. Wadsworth Blvd., 300 ft (91 m) south of W. Florida Ave. in Lakewood.	.38	-	1969-81	6-03-81	13.24	169

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING YEAR 1980--Continued

Station number	Station name	Location	Total drainage area (mi²)	Non-contributing	Period of record	Annual maximum		
						Date	Gage height (feet)	Discharge (ft³/s)
		PLATTE RIVER BASIN--Continued						
06714310	Sand Creek tributary at Denver, CO	Lat 39°47'07", long 104°50'31", in SW¼SW¼ sec.13, T.3 S., R.67 W., Denver County, in median of Andrews Drive Parkway, 50 ft (15 m) downstream from Troy St. in Denver.	0.29	-	1971-81	7-07-81	11.17	66
06723000	Middle Fork St. Vrain Creek near Allens Park, CO	Lat 40°10'07", long 105°26'27", in SE¼NW¼ sec.3, T.2 N., R.72 W., Boulder County, 1.4 mi (2.2 km) northeast from Raymond.	28.0	-	1925-30 1978-81	1981	6.83	235
06727500	Fourmile Creek at Orodell, CO	Lat 40°01'06", long 105°19'33", in NW¼SE¼ sec.27, T.1 N., R.71 W., Boulder County, 2 mi (3.2 km) west of courthouse in Boulder.	24.1	-	1947-53 1978-81	1981	3.60	134
06732500	Fall River at Estes Park, CO	Lat 40°22'40", long 105°31'56", in NW¼NW¼ sec.25, T.5 N., R.73 W., Larimer County, 100 ft (30.5 m) upstream from State bridge 34 and 0.7 mi (1.1 km) upstream from mouth.	39.5	-	1947-53 1978-81	6-25-81	7.85	237
06736650	Cedar Creek at Cedar Cove, CO	Lat 40°25'08", long 105°15'53", in NW¼NW¼ sec.8, T.5 N., R.70 W., Larimer County, 0.2 mi (0.32 km) north of Cedar Cove and 4.1 mi (6.6 km) southeast of Drake.	18.9	-	1978-81	1981	5.25	15
		KANSAS RIVER BASIN						
06825000	South Fork Republican River near Idalia, CO	Lat 39°36'59", long 102°14'32", in SE¼SW¼ sec.13, T.5 S., R.44 W., Yuma County, 0.7 mi (1.1 km) east of U.S. Highway 385 and 6.5 mi (10.5 km) southeast of Idalia.	[a]1,300	-	1950-81	1981	8.88	73
06825500	Landsman Creek near Hale, CO	Lat 39°34'32", long 102°15'06", in SE¼ sec.35, T.5 S., R.44 W., Yuma County, on right bank 900 ft (270 m) upstream from bridge on U.S. Highway 385, 3.2 mi (5.1 km) upstream from mouth, and 7 mi (11 km) southwest of Hale.	268	-	1950-81	1981	8.93	452
		ARKANSAS RIVER BASIN						
07091000	Chalk Creek near Nathrop, CO	Lat 38°44'01", long 106°09'34", in SE¼NW¼ sec.19, T.15 S., R.78 W., Chaffee County, 4 mi (6.4 km) west of Nathrop.	97.0	-	1910, 1949-56, 1978-81	7-11-81	2.50	525
07107500	St. Charles River at Burnt Mill, CO	Lat 38°03'06", long 104°47'35", in NE¼NE¼ sec.17, T.23 S., R.66 W., Pueblo County, 5.9 mi (9.5 km) downstream from North St. Charles River.	166	-	1923-33, 1978-81	8-03-81	7.49	5,500

[a] Not determined.

Listed below, are miscellaneous sites established as part of an Urban Hydrology Study. Discharges were determined by indirect methods.

DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING THE 1981 WATER YEAR

Station no.	Stream	Tributary to	Location	Date	Discharge (ft³/s)
			PLATTE RIVER BASIN		
--------	Lee Gulch at Littleton, CO.	South Platte River.	Lat 39°35'47", long 105°00'57", in SE¼SW¼ sec.21, T.5 S., R.68 W., Arapahoe County, 0.6 mi (0.97 km) upstream from mouth, at Littleton.	6-29-81 7-26-81	118 27
06711570	Harvard Gulch near Colorado Boulevard, at Denver, CO.	-----do-----	Lat 39°40'08", long 104°56'32", in SE¼SE¼ sec.25, T.4 S., R.68 W., Denver County, about 2650 South Jackson Street in Denver.	5-28-81 7-07-81 7-26-81 8-09-81	395 119 86 94
--------	Harvard Gulch at University Boulevard at Denver, CO.	-----do-----	Lat 39°40'20", long 105°57'33", in SE¼SE¼ sec.26, T.4 S., R.68 W., Denver County, near intersection of East Vassar Avenue and South University Boulevard, in Denver.	5-28-81 7-07-81 7-26-81	928 150 297
06711575	Harvard Gulch at Harvard Park, at Denver, CO.	-----do-----	Lat 39°40'21", long 104°58'35", in NW¼SW¼ sec.26, T.4 S., R.68 W., Denver County, in southeast corner of Harvard Park, about 500 ft (152 m) northwest of East Harvard Avenue and South Ogden Street intersection, in Denver.	5-03-81 5-28-81 7-12-81	153 785 186
--------	Dry Gulch at Denver, CO	-----do-----	Lat 39°44'03", long 105°02'20", in SW¼NE¼ sec.6, T.4 S., R.68 W., Jefferson County, 800 ft (244 m) upstream from mouth (to Lakewood Gulch) at Perry Street, north of West 10th Avenue, in Denver.	5-03-81 6-03-81 7-25-81	445 302 106
--------	Lakewood Gulch at Denver, CO.	-----do-----	Lat 39°44'06", long 105°01'54", in SW¼NW¼ sec.5, T.4 S., R.68 W., Jefferson County, 2,000 ft (610 m) downstream from Dry Gulch, near intersection of Knox Court and west 12th Avenue, in Denver.	4-20-81 5-03-81 6-03-81 8-12-81	117 728 726 276

Beginning in water year 1981, several observations of discharge, water temperature, and specific conductance were obtained as part of a special study to determine the amount of inflow from McIntire Springs, into the Conejos River.

DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING THE 1981 WATER YEAR

Station no.	Stream	Tributary to	Location	Date	Discharge (ft^3/s)	Temperature (°C)	Specific conductance
			RIO GRANDE BASIN				
--------	McIntire Springs at mouth near Lasauses, CO.	Conejos River	Lat 37°17'03", long 105°49'05"	1-09-81	12.4	----	---
				2-20-81	13.3	16	---
				4-01-81	11.6	----	---
				4-21-81	10.8	20	---
				5-11-81	8.8	----	---
				5-18-81	8.6	24	188
				6-22-81	6.0	30	179
				7-29-81	8.0	22.5	215
				8-17-81	8.1	23.5	179
				9-15-81	9.6	21	---

DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES

Canyons which enter the valley of the Purgatoire River in Las Animas County, contain intermittent flow that originates as springs and seeps from bedrock and abandoned mines. Discharge, temperature, pH, and specific conductance were measured at several places in nine drainages on the north side of the Purgatoire River during June, July and August, 1981. Measurements were made at low-flow stages, between storm runoff events. Data listed are in downstream order within each drainage. The fifteen digit site identification number is the Latitude and longitude of each site.

The asterisk (*) in the last column of the table, indicates that a water sample was also obtained at the site. Water samples were analyzed for major ions and trace elements.

Site no.	Station name	Location	Date	Discharge (ft^3/s)	Temperature (°C)	pH	Specific conductance	Sample
PURGATOIRE RIVER								
North Fork, Purgatoire River								
371300104580701	Logging Canyon Spring near Vigil	SE¼SE¼NW¼ sec.35, T.32 S., R.68 W., in Logging Canyon, 2 mi (3.2 km) above the North Fork.	7-16-81	0.02	15	7.3	480	*
Santistevan Canyon								
371038104554101	Santistevan Canyon below Pinon Valley Ranch near Zamora	SW¼NW¼NE¼ sec.18, T.33 S., R.67 W., 2.2 mi (3.5 km) above Purgatoire River.	8-05-81	.001	-	-	-	
371001104552701	Santistevan Canyon at Gold Canyon near Zamora	NW¼SE¼SE¼ sec.18, T.33 S., R.67 W., 1.3 mi (2.1 km) above Purgatoire River.	8-05-81	.001	-	-	-	
Wet Canyon								
371405104533101	Wet Canyon below Hank Canyon near Weston	SW¼NW¼NE¼ sec.28, T.32 S., R.67 W., 2.6 mi (4.2 km) above San Pablo Canyon.	7-29-81 8-04-81	.21 .16	- 26	- 8.2	- 850	*
371313104530901	Wet Canyon above San Pablo Canyon near Weston	SW¼SW¼NE¼ sec.33, T.32 S., R.67 W., 1.6 mi (2.6 km) above San Pablo Canyon.	7-08-81 8-04-81	.07 .10	- -	- -	- -	
371152104524701	Wet Canyon below San Pablo Canyon near Weston	SE¼NW¼SW¼ sec.03, T.33 S., R.67 W., 0.6 mi (1.0 km) above San Pablo Canyon.	7-08-81 7-29-81 8-04-81	.09 .12 .09	- - 19.5	- - 8.2	- - 770	
371150104524001	Hidden Spring near Weston	SW¼NE¼SW¼ sec.03, T.33 S., R.67 W., 0.7 mi (1.1 km) below San Pablo Canyon.	8-04-81	.08	12	7.5	800	*
371112104524601	Wet Canyon below Cave Canyon near Weston	SW¼SE¼NW¼ sec.10, T.33 S., R.67 W., 1.8 mi (2.9 km) below San Pablo Canyon.	7-07-81	.17	-	-	-	
371107104524601	Rock Crack Spring near Weston	NW¼NE¼SW¼ sec.10, T.33 S., R.67 W., 1.8 mi (2.9 km) below San Pablo Canyon.	7-07-81	.02	11	7.8	580	*
371006104523101	Wet Canyon below Sawmill Canyon near Weston	SE¼NE¼SW¼ sec.15, T.33 S., R.67 W., 3.4 mi (5.5 km) below San Pablo Canyon.	7-07-81	.09	-	-	-	
370925104515701	Wet Canyon above Weston	NE¼NE¼SE¼ sec.22, T.33 S., R.67 W., 2.0 mi (3.2 km) above Purgatoire River.	7-07-81 8-05-81	.22 .21	- 13	- 8.2	- 600	*
370820104511401	Wet Canyon at Weston	NW¼SW¼SE¼ sec.26, T.33 S., R.67 W., 0.7 mi (1.1 km) above Purgatoire River.	7-23-81	.33	-	-	-	
Molino Canyon								
371008104492901	Molino Canyon near Weston	SW¼NE¼SW¼ S.18, T.33 S., R.66 W., 4.0 mi (6.4 km) above Purgatoire River.	7-02-81	0.001	-	-	-	
370950104491701	Molino Canyon Spring near Weston	SE¼SE¼SW¼ S.18, T.33 S., R.66 W., 3.6 mi (5.8 km) above Purgatoire River.	7-02-81	.001	13.5	7.6	520	*

Site no.	Station name	Location	Date	Discharge (ft³/s)	Temperature (°C)	pH	Specific conductance	Sample
		PURGATOIRE RIVER--Continued						
		Sarcillo Canyon						
371431104501501	Sarcillo Canyon above Dry Canyon near Segundo	SW¼NW¼SE¼ sec.24, T.32 S., R.67 W., 2.1 mi (3.4 km) above Dry Canyon.	7-01-81	0.001	-	-	-	
371208104492901	Sarcillo Canyon below Dry Canyon near Segundo	NW¼SE¼NW¼ sec.06, T.33 S., R.66 W., 1.0 mi (1.6 km) below Dry Canyon.	8-04-81	.003	17	7.9	1,490	
371106104484001	Sarcillo Canyon above Horn Spring Canyon near Segundo	NW¼NW¼SW¼ sec.8, T.33 S., R.66 W., 2.3 mi (3.7 km) below Dry Canyon.	7-01-81	.02	-	-	-	
371046104481001	Tokar Spring near Segundo	SE¼SE¼SW¼ sec.8, T.33 S., R.66 W., 3.0 mi (4.8 km) below Dry Canyon.	7-01-81	.004	-	-	-	
			8-04-81	.01	14	7.5	830	*
371033104481201	Sarcillo Canyon below Tokar Spring near Segundo	SE¼NE¼NW¼ sec.17, T.33 S., R.66 W., 3.3 mi ([illegible].3 km) below Dry Canyon.	7-01-81	.02	-	-	-	
370744104460201	Sarcillo Canyon at Segundo	SW¼SW¼NE¼ sec.34, T.33 S., R.66 W., 0.5 mi (0.8 km) above Purgatoire River.	3-17-81	.02	9.0	7.7	743	*
			7-23-81	.24	-	-	-	
		Smith Canyon						
371020104450701	Smith Canyon Spring near Segundo	SW¼SE¼NW¼ sec.14, T.33 S., R.66 W., 4.3 mi (6.9 km) above Purgatoire River.	7-17-81	.002	20	7.5	485	*
		Burro Canyon						
371415104470101	Upper Burro Spring near Madrid	SW¼SW¼SE¼ sec.21, T.32 S., R.66 W., 13.6 mi (21.9 km) above Purgatoire River.	6-24-81	.002	-	-	-	
			7-21-81	-	13.5	8.0	560	*
371240104445001	Trujillo Spring near Madrid	NW¼NW¼SE¼ sec.35, T.32 S., R.66 W., 11.0 mi (17.7 km) above Purgatoire River.	6-24-81	.02	-	-	-	
			7-21-81	-	12.5	7.4	670	*
371145104432401	Burro Canyon at Pricco Mine near Madrid	NE¼SE¼SE¼ sec.1, T.33 S., R.66 W., 7.9 mi (12.7 km) above Purgatoire River.	6-25-81	.02	-	-	-	
			7-21-81	-	17	8.1	560	
371140104425201	Jacks Mine discharge near Madrid	SE¼SE¼SW¼ sec.6, T.33 S., R.65 W., 7.6 mi (12.2 km) above Purgatoire River.	7-21-81	.0002	27	9.2	2,800	*
370950104410201	Burro Canyon near Madrid	NW¼NW¼NW¼ sec.21, T.33 S., R.65 W., 4.2 mi (6.8 km) above Purgatoire River.	6-24-81	.06	-	-	-	
			7-21-81	-	17	8.2	1,000	*
370923104402901	Burro Canyon above Madrid	NW¼NW¼SE¼ sec.21, T.33 S., R.65 W., 3.4 mi (5.5 km) above Purgatoire River.	6-24-81	.01	-	-	-	
		Reilly Canyon						
371400104430001	Chinaman Canyon above Boncarbo	SW¼NE¼NW¼ sec.30, T.32 S., R.65 W., 1.3 mi (2.1 km) above Reilly Canyon.	6-18-81	.04	-	-	-	
			7-20-81	-	26	8.5	540	*
371202104403001	Reilly Canyon below Boncarbo	NW¼NW¼SE¼ sec.4, T.33 S., R.65 W., 2.8 mi (4.5 km) below Chinaman Canyon.	7-20-81	.01	-	-	-	
371120104392801	Midway School Spring above Cokedale	NW¼SW¼NE¼ sec.10, T.33 S., R.65 W., 4.1 mi (6.6 km) below Chinaman Canyon.	7-20-81	.0002	19	8.0	1,210	*
370823104364501	Reilly Canyon below Cokedale	SE¼NE¼SE¼ sec.25, T.33 S., R.65 W., 0.3 mi (0.5 km) below Highway 12 bridge.	7-20-81	.05	29	8.4	1,125	*

Site no.	Station name	Location	Date	Discharge (ft³/s)	Temperature (°C)	pH	Specific conductance	Sample
		PURGATOIRE RIVER--Continued						
		Berwind Canyon						
371634104403601	Hunter Canyon near Ludlow	NW¼SW¼NE¼ sec.9, T.32 S., R.65 W., at Road Canyon.	8-06-81	0.02	20	7.4	570	
371615104385201	Bear Canyon near Ludlow	SE¼NW¼SW¼ sec.11, T.32 S., R.65 W., 1 mi (1.6 km) above Road Canyon.	8-06-81	.01	15.5	7.2	1,580	
371714104380201	Berwind Spring near Ludlow	NE¼NE¼SE¼ sec.02, T.32 S., R.65 W., 0.8 mi (1.3 km) below Bear Canyon.	8-06-81	.06	12	7.4	945	*
371854104362701	Berwind Canyon below Berwind ruins near Ludlow	SW¼NW¼SW¼ sec.30, T.31 S., R.64 W., 3.3 mi (5.3 km) below Bear Canyon.	8-06-81	.01	19	7.2	1,500	

Samples are collected at sites other than gaging stations and partial-record stations to give coverage in a river basin. Such sites are referred to as miscellaneous sites.

PLATTE RIVER BASIN

COOPERATION.--Water-quality data for those stations marked with * provided by U.S. Army, Corps of Engineers, Omaha.

06612500 - ROARING FORK NEAR WALDEN, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	SPECIFIC CONDUCTANCE LAB (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
OCT										
30...	1030	34	240	--	7.6	3.0	10.1	100	31	6.2
MAY										
06...	1215	3.3	300	302	--	10.0	8.7	130	40	8.0
JUN										
02...	1630	28	250	249	7.4	19.0	7.6	110	31	7.0
16...	1115	32	240	238	7.7	11.0	8.2	110	31	6.9

DATE	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
OCT										
30...	9.3	.4	1.0	--	19	1.1	1.1	11	146	.20
MAY										
06...	13	.5	1.5	140	25	1.4	.4	11	185	.25
JUN										
02...	11	.5	1.5	110	7.5	1.0	.7	11	138	.19
16...	9.0	.4	.9	100	1.0	.6	.7	10	121	.16

DATE	SOLIDS, DISSOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT									
30...	13.4	--	.00	.000	6	580	50	90	80
MAY									
06...	1.7	--	.09	.000	20	790	60	290	280
JUN									
02...	10.4	--	.08	.020	20	680	180	140	120
16...	10.6	560	.05	.000	10	560	240	110	100

06613500 - NORTH FORK NORTH PLATTE RIVER AT HIGHO, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
30...	0920	20	110	--	7.0	2.0	10.4	49	13	3.9
MAY										
06...	1100	26	160	142	--	8.0	8.9	67	18	5.4
JUN										
02...	1415	66	110	113	6.5	10.0	7.2	50	13	4.2
16...	1045	76	85	83	7.7	9.0	8.5	37	9.7	3.2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT										
30...	2.9	.2	1.4	--	5.2	.7	.2	11	73	.10
MAY										
06...	5.2	.3	2.7	69	2.0	1.7	.2	10	89	.12
JUN										
02...	3.7	.2	4.1	52	2.4	1.0	.1	8.8	73	.10
16...	2.2	.2	.7	40	1.1	2.2	.1	7.0	51	.07

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT									
30...	3.9	--	.10	.000	6	300	250	30	30
MAY									
06...	6.3	--	.10	.160	0	630	360	50	40
JUN									
02...	12.1	--	.15	.070	10	560	270	30	20
16...	10.2	390	.06	.000	0	390	170	30	20

06610500 - MICHIGAN R AT HAWORTH SCHOOL NEAR LINDLAND, CO. DISTRICT CODE 08

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
28...	1715	25	140	--	7.5	1.5	10.3	54	15	3.9
MAY										
07...	2010	56	120	117	--	7.5	8.5	46	13	3.3
JUN										
05...	0930	220	75	75	7.2	9.0	7.8	32	9.1	2.2
15...	1630	116	84	82	7.6	10.5	8.3	36	10	2.6
JUL										
24...	0835	23	140	129	--	13.0	7.3	56	16	4.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT 28...	3.3	.2	1.0	--	12	.7	.2	12	81	.11
MAY 07...	3.5	.2	1.3	50	2.5	.6	.1	9.8	69	.09
JUN 05...	2.4	.2	2.8	30	1.5	.5	.1	8.5	46	.06
15...	2.3	.2	.7	30	1.1	6.2	.1	8.8	50	.07
JUL 24...	3.4	.2	1.1	60	2.0	.3	.1	11	75	.10

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 28...	5.5	--	.00	.000	9	700	510	80	70
MAY 07...	10.4	--	.95	.080	0	680	290	50	50
JUN 05...	27.3	--	.10	.030	10	1200	160	70	30
15...	15.7	460	.05	.000	0	460	170	40	30
JUL 24...	4.7	--	.04	.100	10	780	520	40	40

06617100 - MICHIGAN RIVER AT WALDEN, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SPE- CIFIC CON- DUCT- ANCE LAB (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT 30...	0730	3.6	228	--	8.1	.0	14.4	93	26	6.8
MAY 08...	0815	20	210	216	--	3.0	10.0	89	25	6.5
JUN 05...	0815	142	230	241	--	11.0	--	95	27	6.8
15...	1830	66	240	239	7.8	14.0	7.7	100	28	7.2
JUL 23...	1750	3.8	240	232	--	21.5	6.4	110	32	7.1

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT 30...	8.8	.4	1.4	--	23	1.7	.3	13	139	.19
MAY 08...	9.5	.4	2.0	79	31	1.7	.2	11	136	.18
JUN 05...	12	.5	1.8	85	14	1.7	.2	13	128	.17
15...	12	.5	1.1	84	4.0	1.8	.2	12	117	.16
JUL 23...	9.4	.4	1.4	130	2.0	.9	.2	13	145	.20

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 30...	1.4	--	.00	.010	30	1200	540	130	120
MAY 08...	7.3	--	.28	.090	0	1000	210	150	130
JUN 05...	49.1	--	.09	.030	10	1000	240	150	110
15...	20.8	700	.04	.040	0	700	340	120	100
JUL 23...	1.5	--	.07	.050	20	1000	320	80	40

06617500 - ILLINOIS CREEK NEAR RAND, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 28...	1350	20	95	--	8.9	3.0	9.8	59	16	4.6
APR 29...	1110	14	80	90	--	9.0	8.7	36	10	2.6
JUN 05...	1045	106	60	60	7.4	10.0	8.0	26	7.2	1.9
15...	1330	47	76	71	7.9	8.0	8.9	30	8.2	2.3
JUL 24...	0940	12	115	118	--	14.0	7.4	56	16	3.9

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT 28...	5.4	.3	1.0	67	7.4	.9	.2	9.3	86	.12
APR 29...	3.3	.2	1.1	34	2.0	.9	.2	6.4	48	.07
JUN 05...	2.4	.2	.8	26	2.0	.5	.1	6.8	38	.05
15...	2.2	.2	.6	30	1.1	1.0	.1	6.7	41	.06
JUL 24...	4.1	.2	.9	39	2.0	8.6	.1	9.1	69	.09

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 28...	4.6	--	.00	.000	10	1200	740	70	60
APR 29...	1.8	--	.01	.000	5	1200	690	50	40
JUN 05...	10.9	--	.09	.000	0	1300	120	40	20
15...	5.2	630	.04	.000	0	630	220	40	20
JUL 24...	2.2	--	.01	.020	10	1100	820	40	30

06618500 - ILLINOIS CREEK AT WALDEN, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
30...	0800	2.4	350	--	7.9	2.5	10.2	150	40	13
MAY										
08...	0850	.50	430	459	--	6.0	9.5	180	46	16
JUN										
05...	0845	10	230	475	7.6	12.0	5.6	190	50	16
18...	1425	7.2	500	481	7.7	13.5	8.1	200	49	18
JUL										
24...	0645	.70	600	514	--	14.0	3.8	220	55	21

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT										
30...	24	.8	2.2	170	27	3.4	.4	13	225	.31
MAY										
08...	31	1.0	2.4	210	37	4.0	1.0	12	285	.39
JUN										
05...	26	.8	7.6	200	40	4.1	.3	15	280	.38
18...	30	.9	2.5	220	--	3.8	.4	13	--	--
JUL										
24...	26	.8	2.2	260	--	3.4	.4	13	--	--

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT									
30...	1.5	--	.00	.000	20	700	80	110	100
MAY									
08...	.38	--	1.9	.000	20	1100	40	430	390
JUN									
05...	7.6	--	.10	.050	20	1100	180	410	390
18...	4.9	1100	.04	.010	30	1100	200	330	310
JUL									
24...	.53	--	.02	.050	30	1000	100	380	370

06709610 - SOUTH PLATTE RIVER BELOW CHATFIELD LAKE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TUR-BID-ITY (NTU)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
JAN 14...	1350	3.0	168	38	18	54	30	274	1
JUN 09...	0945	3.0	135	38	10	67	25	244	8
JUL 14...	1410	2.0	124	33	10	44	80	258	10
AUG 24...	1445	40	111	27	11	47	25	232	4

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
JAN 14...	.58	.000	.000	4.5	4.50	.030	.000	.0
JUN 09...	.39	.000	.160	.24	.40	.010	.000	.0
JUL 14...	.07	.000	.250	.25	.50	.060	.030	.0
AUG 24...	.02	.000	.156	.75	.90	.060	.020	.0

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
JAN 14...	153	0	0	2	0	0	159	0	65
JUL 14...	100	1	0	0	0	0	3600	0	300

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	THAL-LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
JAN 14...	11	0	0	.00	11	.00	0	.00
JUL 14...	0	0	0	.00	0	.00	0	.00

06711000 - TURKEY CREEK NEAR MORRISON, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TUR-BID-ITY (NTU)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)
JAN 15...	1000	2.0	838	289	28	595	50	1324
JUN 04...	1345	4.0	240	60	225	203	39	628
JUL 15...	0840	2.0	829	262	43	580	45	1194
AUG 25...	1235	5.0	757	239	39	530	50	1132

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)
JAN 15...	2	1.9	.000	.000	.30	.30	.440	.360
JUN 08...	17	.34	.000	.010	.19	.20	.220	.220
JUL 15...	5	.70	.000	.000	.20	.20	.030	.020
AUG 25...	1	1.4	.030	.060	.34	.40	.040	.530

DATE	TIME	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
JAN 15...	1000	106	0	0	4	0	0	330	43	52
JUN 08...	1345	--	--	--	--	--	--	--	--	--
JUL 15...	0840	300	1	0	0	0	0	400	30	30
AUG 25...	1235	--	--	--	--	--	--	--	--	--

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	THAL-LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
JAN 15...	.0	29	4	3	40.0	14	.00	0	.00
JUN 08...	.0	--	--	--	--	--	--	--	--
JUL 15...	.0	0	1	20	300	10	.00	0	.00
AUG 25...	.0	--	--	--	--	--	--	--	--

06711100 - BEAR CREEK LAKE AT LAKEWOOD, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
JAN						
12...	0950	.00	--	--	--	--
12...	0951	5.00	--	--	--	--
21...	0950	.00	420	8.7	3.5	12.9
21...	0951	1.60	420	9.0	3.0	13.0
21...	0952	3.30	430	9.0	3.0	13.0
21...	0953	9.80	430	9.0	3.0	13.2
21...	0954	16.4	430	9.0	3.0	13.0
21...	0955	23.0	430	9.1	3.0	13.0
21...	0956	29.5	430	9.0	3.0	12.4
JUN						
10...	1320	.00	385	9.3	22.5	12.2
10...	1321	5.00	360	9.3	22.0	12.5
10...	1322	3.30	380	9.2	21.5	12.4
10...	1323	9.80	425	8.7	16.0	5.6
10...	1324	16.4	510	7.8	13.5	3.4
JUL						
16...	0905	.00	320	9.0	22.0	7.3
16...	0906	5.00	320	9.1	21.5	7.3
16...	0907	3.30	325	9.1	21.5	7.4
16...	0908	9.80	340	8.7	20.5	4.4
16...	0909	16.4	460	7.4	16.0	1.4
16...	0910	23.0	500	7.2	13.0	1.0
AUG						
26...	1020	.00	325	9.0	19.5	8.9
26...	1021	5.00	330	9.2	19.5	9.0
26...	1022	3.30	330	9.2	19.5	8.9
26...	1023	9.80	340	8.7	18.5	6.1
26...	1024	16.4	380	7.7	18.0	.6
26...	1025	23.0	490	7.4	15.0	.4

DATE	TIME	TURBIDITY (NTU)	TRANSPARENCY (SECCHI DISK) (IN)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)
JAN												
12...	0950	--	47.0	--	--	--	--	--	--	--	--	--
12...	0951	3.0	--	189	50	15	96	16	308	9	.13	.000
21...	0950	--	46.8	--	--	--	--	--	--	--	--	--
JUN												
10...	1320	--	61.0	--	--	--	--	--	--	--	--	--
10...	1321	3.0	--	145	42	10	91	17	246	5	.04	.000
JUL												
16...	0905	--	28.0	--	--	--	--	--	--	--	--	--
16...	0906	5.0	--	137	36	11	80	15	202	14	.02	.000
AUG												
26...	1020	--	38.0	--	--	--	--	--	--	--	--	--
26...	1021	3.0	--	142	36	13	70	18	218	5	.00	.000

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
JAN											
12...	--	--	--	--	--	--	--	--	--	--	--
12...	.020	.68	.70	.010	200	0	0	3	0	5	224
21...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	--	--	--	--	--	--	--	--	--	--	--
10...	.080	--	--	.000	--	--	--	--	--	--	--
JUL											
16...	--	--	--	--	--	--	--	--	--	--	--
16...	.280	--	--	.040	300	0	0	0	0	0	400
AUG											
26...	--	--	--	--	--	--	--	--	--	--	--
26...	.440	1.1	1.50	.140	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	THAL-LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
JAN											
12...	--	--	--	--	--	--	--	--	--	--	--
12...	0	254	.2	14	1	0	.00	24	.00	0	.00
21...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	.0	--	--	--	--	--	--	--	--
JUL											
16...	--	--	--	--	--	--	--	--	--	--	--
16...	0	400	.5	0	0	0	.00	40	.00	0	.00
AUG											
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	.6	--	--	--	--	--	--	--	--

06712850 - CHERRY CREEK ABOVE CHERRY CREEK LAKE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TUR-BID-ITY (NTU)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)
JAN								
13...	1140	3.0	373	113	23	158	31	638
JUN								
09...	1420	8.0	377	121	18	153	33	624
AUG								
25...	0840	2.0	345	107	19	140	36	546

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)
JAN								
13...	0	5.3	.000	.000	.30	.30	.180	.160
JUN								
09...	20	4.6	.000	.040	.46	.50	.160	.140
AUG								
25...	12	4.7	.040	.010	.49	.50	.130	.120

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
JAN 13...	282	3	0	0	0	0	227	0	74
JUN 09...	--	--	--	--	--	--	--	--	--
AUG 25...	--	--	--	--	--	--	--	--	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	THALLIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
JAN 13...	.0	21	14	2	.00	9	.00	1	.00
JUN 09...	.0	--	--	--	--	--	--	--	--
AUG 25...	.0	--	--	--	--	--	--	--	--

384407104434801 - SC01506624BAD1 WIDFLD- 4

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	SPECIFIC CONDUCTANCE LAB (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	NITROGEN DISSOLVED (MG/L AS N)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)
FEB 13...	0905	--	857	6.8	13.0	9.8	38	571	--	8.8	8.70	.000
MAR 19...	0955	910	903	6.7	12.5	8.8	39	586	--	--	7.80	--
APR 21...	1000	770	778	6.8	13.0	8.8	33	534	--	--	7.60	--
MAY 19...	1315	771	787	6.5	12.5	7.5	34	525	--	--	6.20	.010
JUN 24...	1040	727	770	6.7	13.5	7.8	34	515	515	--	6.70	--
JUL 17...	1100	--	793	6.4	13.0	8.0	36	518	518	--	7.00	--
AUG 19...	1055	810	802	6.9	14.0	8.2	36	524	--	--	7.00	--
SEP 18...	1030	803	861	6.4	13.5	7.3	35	549	--	--	6.00	--

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
FEB 13...	.000	8.8	8.7	.030	.050	.97	1.1	1.00	.00	1.1	9.8	.050
MAR 19...	.000	--	7.8	--	.060	--	.94	--	--	1.0	--	--
APR 21...	.000	--	7.6	--	.070	--	1.1	--	--	1.2	--	--
MAY 19...	.010	--	6.2	--	.060	--	1.2	--	--	1.3	--	--
JUN 24...	.000	--	6.7	--	.100	--	1.0	--	--	1.1	--	--
JUL 17...	.000	--	7.0	--	.110	--	.89	--	--	1.0	--	--
AUG 19...	.030	--	7.0	--	.130	--	1.1	--	--	1.2	--	--
SEP 18...	.020	--	6.0	--	.120	--	1.2	--	--	1.3	--	--

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WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SPE- CIFIC CON- DUCT- ANCE LAB (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	NITRO- GEN DIS- SOLVED (MG/L AS N)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)
FEB											
13...	1025	650	635	6.8	13.0	7.8	24	407	7.2	7.00	.000
MAR											
19...	1330	--	649	6.3	13.0	5.5	26	401	--	4.80	--
MAY											
21...	1500	642	667	6.6	14.0	9.2	19	440	--	7.00	--
JUN											
22...	1105	--	604	6.2	14.5	8.7	22	400	--	7.10	--
JUL											
17...	0955	--	563	6.4	13.0	9.0	20	362	--	8.00	--

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)
FEB											
13...	.000	7.2	7.0	.030	.010	1.1	.81	1.10	.28	.82	8.3
MAR											
19...	.000	--	4.8	--	.020	--	.70	--	--	.72	--
MAY											
21...	.000	--	7.0	--	.100	--	2.1	--	--	2.2	--
JUN											
22...	.000	--	7.1	--	.040	--	1.6	--	--	1.6	--
JUL											
17...	.000	--	8.0	--	.080	--	.92	--	--	1.0	--

384535104450801 - SC01506611BCD2 VENETU- 3

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SPE- CIFIC CON- DUCT- ANCE LAB (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	NITRO- GEN DIS- SOLVED (MG/L AS N)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)
FEB												
13...	1115	460	445	6.8	13.0	10	13	166	294	9.3	9.10	.000
MAR												
19...	1130	422	434	6.5	13.0	9.1	13	--	275	--	8.30	--
APR												
21...	1045	417	425	6.7	13.5	9.9	12	--	292	--	8.50	--
MAY												
19...	1345	449	463	6.3	12.5	8.7	14	--	316	--	7.60	.010
JUN												
19...	1535	430	422	6.6	14.0	9.8	11	--	282	--	8.20	--
JUL												
17...	1200	--	434	6.5	13.0	9.2	13	--	288	--	8.60	--
AUG												
19...	1135	420	423	6.8	13.5	8.9	11	--	281	--	7.90	--
SEP												
18...	1125	407	513	6.3	13.0	8.0	11	--	287	--	6.80	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
FEB 13...	.000	9.3	9.1	.020	.010	1.1	1.1	1.10	.00	1.1	10	.090
MAR 19...	.000	--	8.3	--	.020	--	.76	--	--	.78	--	--
APR 21...	.160	--	8.7	--	.160	--	1.0	--	--	1.2	--	--
MAY 19...	.010	--	7.6	--	.090	--	1.0	--	--	1.1	--	--
JUN 19...	.000	--	8.2	--	.070	--	1.5	--	--	1.6	--	--
JUL 17...	.010	--	8.6	--	.060	--	.57	--	--	.63	--	--
AUG 19...	.030	--	7.9	--	.130	--	.87	--	--	1.0	--	--
SEP 18...	.020	--	6.8	--	.130	--	1.1	--	--	1.2	--	--

384610104453501 - SC01506603DDB SECURI-14

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	NITRO-GEN DIS-SOLVED (MG/L AS N)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)
FEB 13...	1100	500	489	7.3	13.0	6.0	12	326	6.4	5.00	.000
MAR 19...	1355	485	488	6.7	13.0	5.3	13	306	--	4.70	--
APR 21...	0930	488	494	7.1	13.5	6.8	17	336	--	5.10	--
MAY 19...	1230	480	494	6.7	12.5	7.7	13	324	--	6.10	--
JUN 23...	1030	--	482	7.2	14.0	6.7	22	324	--	5.30	--
JUL 17...	1025	--	496	6.8	13.0	7.4	15	322	--	6.80	--
AUG 19...	1005	500	498	6.9	12.5	5.5	14	317	--	4.70	--
SEP 18...	0945	468	571	6.8	12.5	5.7	23	323	--	4.20	--

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)
FEB 13...	.000	6.4	5.0	.040	.030	1.2	.94	1.20	.23	.97	7.6
MAR 19...	.000	--	4.7	--	.030	--	.56	--	--	.59	--
APR 21...	.060	--	5.7	--	.120	--	.98	--	--	1.1	--
MAY 19...	.010	--	6.1	--	.120	--	1.5	--	--	1.6	--
JUN 23...	.000	--	5.3	--	.060	--	1.3	--	--	1.4	--
JUL 17...	.000	--	6.8	--	.060	--	.58	--	--	.64	--
AUG 19...	.030	--	4.7	--	.070	--	.68	--	--	.75	--
SEP 18...	.030	--	4.2	--	.120	--	1.4	--	--	1.5	--

384617104455901 - SC01506603CAD1 STRTMR- 4

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	SPECIFIC CONDUCTANCE LAB (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	NITROGEN DISSOLVED (MG/L AS N)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)
FEB 13...	1140	1000	1020	7.0	13.0	10	33	694	9.3	8.80	.000
MAR 19...	1045	1020	1010	6.6	13.0	8.4	34	668	--	7.50	--
MAY 21...	1545	901	937	6.6	13.5	7.5	37	651	--	6.10	--
JUN 18...	1200	--	1000	6.6	13.0	7.5	31	703	--	6.60	--
JUL 17...	1130	--	974	6.5	13.0	7.7	37	659	--	6.50	--
SEP 04...	1055	943	948	6.6	14.0	7.3	37	651	--	6.20	--
18...	1050	945	1010	6.4	13.5	7.3	32	661	--	6.10	--

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)
FEB 13...	.000	9.3	8.8	.160	.180	1.0	1.1	1.20	.00	1.3	11
MAR 19...	.000	--	7.5	--	.270	--	.67	--	--	.94	--
MAY 21...	.000	--	6.1	--	.090	--	1.3	--	--	1.4	--
JUN 18...	.000	--	6.6	--	.210	--	.69	--	--	.90	--
JUL 17...	.010	--	6.5	--	.260	--	.94	--	--	1.2	--
SEP 04...	.010	--	6.2	--	.030	--	1.1	--	--	1.1	--
18...	.030	--	6.1	--	.230	--	.97	--	--	1.2	--

403508106270601 - CHEDSEY CREEK ABV MOUTH NR COALMONT, CO

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	SPECIFIC CONDUCTANCE LAB (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
OCT 30...	1145	4.5	170	172	7.3	4.0	9.8	64	18	4.6
MAY 06...	1435	5.1	185	185	--	11.0	8.1	66	18	5.1
JUN 02...	1740	66	80	79	7.6	16.0	7.1	30	8.4	2.1
16...	1220	8.0	115	115	7.4	11.0	8.1	46	13	3.4

DATE	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
OCT 30...	7.9	.4	.9	63	21	1.3	.6	7.6	101	.14
MAY 06...	11	.6	2.0	47	39	1.4	.4	7.1	114	.16
JUN 02...	4.0	.3	.7	30	2.0	.8	.2	5.8	43	.06
16...	5.8	.4	.5	51	1.3	.1	.3	5.8	62	.08

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 30...	1.2	--	.09	.010	30	1100	740	250	250
MAY 06...	1.6	--	.09	.090	0	1300	790	360	360
JUN 02...	7.7	--	.10	.030	0	700	170	70	50
16...	1.3	570	.05	.000	10	570	330	140	130

404108106030701 - CANADIAN R. ABV MUDDY C. 1 MILE ABV STA 06619400

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SPE- CIFIC CON- DUCT- ANCE LAB (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
MAY 07...	1000	12	91	91	--	5.0	10.4	38	11	2.6
JUN 03...	1330	82	90	89	7.3	12.5	7.9	39	12	2.3
16...	1620	41	90	91	7.5	14.0	7.5	38	11	2.5
JUL 01...	1010	18	125	127	8.1	14.5	7.8	56	17	3.2

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
MAY 07...	3.9	.3	1.0	37	1.7	.5	.1	7.2	51	.07
JUN 03...	3.1	.2	1.2	32	2.0	.8	.1	7.1	49	.07
16...	2.2	.2	.7	34	1.9	.2	.1	7.0	47	.06
JUL 01...	2.8	.2	1.1	52	2.2	.5	.1	8.4	67	.09

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAY 07...	1.7	--	.06	.050	0	950	250	30	30
JUN 03...	10.8	--	.13	.020	0	1100	170	50	30
16...	5.2	140	.07	.130	0	140	670	20	40
JUL 01...	3.3	--	.01	.000	0	1100	70	70	50

404109106030501 - MUDDY CREEK AT MOUTH 1 MILE ABV STATION 06619400

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TEMPER-ATURE (DEG C)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	OXYGEN, DIS-SOLVED (MG/L)	PH (UNITS)	PH LAB (UNITS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
MAY										
07...	2.0	80020	1.0	500	10.0	--	7.5	--	--	.04
JUN										
03...	15.0	80020	4.0	300	7.0	--	7.7	--	--	.10
16...	18.0	80020	3.0	300	7.5	7.7	7.8	630	--	.04
JUL										
01...	12.0	80020	.70	500	7.0	8.2	7.9	--	.34	.03

DATE	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	PERCENT SODIUM	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
MAY									
07...	.06	.020	260	73	18	8.1	.2	6	1.2
JUN									
03...	.12	.040	140	42	8.7	6.8	.3	9	1.7
16...	.00	.000	140	39	9.9	5.3	.2	8	1.4
JUL									
01...	.09	.030	270	74	21	10	.3	7	1.4

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SULFATE DIS-SOLVED (MG/L AS SO4)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	BORON, DIS-SOLVED (UG/L AS B)	IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)
MAY									
07...	.9	180	.2	9.2	10	600	1700	1100	0
JUN									
03...	.7	60	.2	10	40	3200	3300	130	80
16...	.3	8.0	.2	9.2	30	580	630	50	10
JUL									
01...	.7	77	.3	13	30	740	790	50	10

DATE	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	POTAS-SIUM 40 DIS-SOLVED (PCI/L AS K40)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	ALKA-LINITY LAB (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
MAY									
07...	370	400	346	.93	.47	.90	500	90	170
JUN									
03...	260	180	190	2.1	.26	1.3	305	98	43
16...	80	70	134	1.1	.18	1.0	290	100	38
JUL									
01...	340	330	330	.62	.45	1.0	526	220	51

464151108382501 - LONE PINE CREEK AT LONE PINE TRAILHEAD

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	SPE-CIFIC CON-DUCT-ANCE LAB (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
MAY										
08...	0845	16	42	42	--	3.0	9.9	26	8.4	1.3
JUN										
02...	1315	41	32	33	6.9	6.0	9.0	13	4.0	.8
16...	0930	23	37	38	7.2	3.5	9.5	20	6.0	1.1

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
MAY										
08...	1.3	.1	1.1	30	1.5	.2	.1	5.2	38	.05
JUN										
02...	1.1	.1	1.0	11	1.6	.5	.0	4.6	21	.03
16...	.9	.1	1.0	17	.5	.1	.1	4.9	25	.03

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAY									
08...	1.6	--	.11	.000	0	60	50	0	7
JUN									
02...	2.3	--	.14	.030	0	50	20	0	2
16...	1.6	40	.06	.030	0	40	20	0	1

06614800 - MICHIGAN RIVER NEAR CAMERON PASS, CO. (LAT 40 29 40 LONG 105 51 52)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1980			MAY , 1981		
09...	9.5	44	07...	1.5	48
NOV			JUN		
12...	3.0	50	04...	1.0	34
JAN , 1981			JUL		
29...	1.5	50	08...	11.0	41
FEB			AUG		
25...	1.5	45	12...	12.0	35
APR					
09...	1.5	52			

06616000 - NORTH FORK MICHIGAN RIVER NEAR GOULD, CO. (LAT 40 32 50 LONG 106 01 14)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1980			APR , 1981		
09...	11.0	120	30...	6.0	80
NOV			MAY		
12...	4.0	140	05...	3.5	60
DEC			JUN		
10...	.5	132	04...	7.0	70
JAN , 1981			JUL		
29...	.5	160	08...	21.0	95
FEB			AUG		
25...	1.0	150	12...	12.0	120
APR					
09...	5.5	150			

06657500 - LARAMIE RIVER NEAR GLENDEVEY, CO. (LAT 40 48 02 LONG 105 52 40)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1980			APR , 1981		
09...	7.5	80	08...	--	120
NOV			MAY		
12...	3.0	100	05...	10.0	60
DEC			JUN		
10...	.0	110	04...	9.0	40
JAN , 1981			JUL		
28...	1.0	130	01...	16.0	65
FEB			AUG		
24...	1.0	115	12...	17.0	110

06696980 - TARRYALL CREEK AT UPPER STATION, NEAR COMO, CO. (LAT 39 20 22 LONG 105 54 37)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1980			APR , 1981		
07...	5.0	70	24...	4.0	125
NOV			MAY		
06...	4.0	<50	21...	5.0	180
DEC			JUN		
02...	2.0	85	10...	15.0	120
JAN , 1981			JUL		
13...	1.0	75	07...	20.0	185
FEB			AUG		
25...	1.5	100	11...	13.0	85
MAR			SEP		
12...	.0	95	03...	12.0	85
25...	1.0	180			

06697450 - MICHIGAN CREEK ABOVE JEFFERSON, CO. (LAT 39 21 32 LONG 105 50 27)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1980			APR , 1981		
07...	5.0	80	24...	5.0	150
NOV			MAY		
06...	4.0	85	21...	5.0	150
DEC			JUN		
02...	1.0	110	10...	15.0	180
JAN , 1981			JUL		
13...	1.0	90	07...	20.0	210
FEB			AUG		
25...	.0	110	11...	15.0	60
MAR			SEP		
25...	.0	80	03...	11.0	80

06698000 - JEFFERSON CREEK NEAR JEFFERSON, CO. (LAT 39 23 24 LONG 105 48 38)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1980			APR , 1981		
07...	5.0	<50	24...	5.0	125
NOV			MAY		
06...	4.0	<50	21...	5.0	180
DEC			JUN		
02...	2.0	100	10...	15.0	185
JAN , 1981			JUL		
13...	1.0	90	07...	20.0	145
FEB			AUG		
25...	.0	85	11...	13.0	<50
MAR			SEP		
25...	.0	110	03...	10.0	<50

06709500 - PLUM CREEK NEAR LOUVIERS, CO. (LAT 39 29 04 LONG 105 00 07)

OCT , 1980			MAY , 1981		
02...	18.0	175	22...	12.0	200
28...	5.0	110	27...	11.0	170
NOV			JUN		
18...	5.0	180	03...	17.0	220
DEC			16...	20.0	160
11...	2.0	150	JUL		
JAN , 1981			09...	22.0	170
06...	3.0	120	23...	25.0	220
FEB			AUG		
13...	1.0	200	06...	25.0	170
27...	11.0	300	24...	8.0	120
MAR			SEP		
27...	8.0	280	17...	15.0	150
APR					
08...	2.0	200			
30...	15.0	185			

06711590 - SOUTH PLATTE RIVER AT FLORIDA AVE AT DENVER, CO. (LAT 39 41 23 LONG 104 59 57)

MAR , 1981			MAY , 1981		
17...	10.0	450	13...	12.5	640
27...	8.0	440	JUN		
APR			03...	15.0	--
08...	11.0	--	18...	15.0	450
30...	15.0	440	JUL		
MAY			09...	22.0	440
07...	15.0	700			

06712000 - CHERRY CREEK NEAR FRANKTOWN, CO. (LAT 39 21 21 LONG 104 45 46)

OCT , 1980			MAY , 1981		
02...	20.0	150	22...	15.0	--
23...	5.0	150	27...	10.0	140
NOV			JUN		
18...	3.0	180	03...	15.0	150
DEC			16...	20.0	200
11...	2.0	110	JUL		
JAN , 1981			09...	25.0	140
06...	3.0	180	23...	26.0	185
FEB			AUG		
13...	.0	120	06...	25.0	95
27...	3.0	199	24...	18.0	125
MAR			SEP		
27...	10.0	220	17...	11.0	130
APR					
08...	1.0	180			
30...	15.0	185			

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)

06714130 - SOUTH PLATTE RIVER AT 50TH AVENUE AT DENVER, CO. (LAT 39 47 13 LONG 104 58 28)

OCT , 1980			MAY , 1981		
01...	23.0	1100	13...	14.0	460
NOV			28...	8.0	--
10...	13.0	810	JUN		
DEC			22...	23.0	840
11...	9.5	950	JUL		
JAN , 1981			21...	22.0	650
12...	7.0	1000	AUG		
MAR			12...	20.0	900
09...	9.0	1000	SEP		
APR			17...	17.0	760
14...	15.5	590			

06720415 - GRANGE HALL CREEK AT NORTHGLENN, CO. (LAT 39 53 21 LONG 104 57 40)

OCT , 1980			JAN , 1981		
01...	20.0	1300	12...	2.0	2800
DEC					
11...	3.0	2500			

06720417 - GRANGE HALL CREEK BELOW NORTHGLENN, CO. (LAT 39 53 30 LONG 104 57 27)

AUG , 1981			SEP , 1981		
12...	19.0	1300	17...	20.0	1700

06746095 - JOE WRIGHT CREEK ABOVE JOE WRIGHT RESERVOIR, CO. (LAT 40 32 24 LONG 105 52 56)

OCT , 1980			APR , 1981		
09...	10.0	70	09...	.0	70
NOV			30...	.5	44
12...	1.5	70	JUN		
DEC			04...	3.0	38
11...	.0	50	JUL		
JAN , 1981			08...	11.0	35
28...	.0	90	AUG		
FEB			12...	11.0	54
25...	.0	85			

06746110 - JOE WRIGHT CREEK BELOW JOE WRIGHT RESERVOIR, CO. (LAT 40 33 43 LONG 105 52 09)

OCT , 1980			APR , 1981		
09...	7.0	40	09...	.5	52
NOV			30...	2.0	44
12...	1.5	45	JUN		
DEC			04...	5.5	50
11...	.0	42	JUL		
JAN , 1981			08...	9.0	45
28...	.0	50	AUG		
FEB			12...	--	45
25...	.5	45			

06756995 - SOUTH PLATTE RIVER AT MASTERS, CO. (LAT 40 18 21 LONG 104 14 40)

OCT , 1980			APR , 1981		
22...	11.5	2200	21...	18.0	1060
NOV			MAY		
18...	5.5	1575	19...	16.5	1200
DEC			JUN		
15...	5.5	1580	16...	23.0	1420
JAN , 1981			JUL		
20...	4.5	1710	14...	28.0	1580
FEB			AUG		
18...	9.5	1730	11...	22.0	1660
MAR			SEP		
24...	8.5	1570	04...	22.0	1620

06759100 - BIJOU CREEK NEAR FT. MORGAN, CO. (LAT 40 16 58 LONG 103 52 30)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1980			MAY , 1981		
22...	13.0	1850	19...	18.0	1620
NOV			JUN		
18...	8.0	1850	16...	19.5	1520
DEC			JUL		
16...	12.0	1685	14...	26.0	1530
JAN , 1981			AUG		
20...	9.0	1800	11...	21.0	1800
MAR			SEP		
24...	9.0	1670	04...	20.0	1660
APR					
21...	18.5	1660			

06826500 - SOUTH FORK REPUBLICAN RIVER NEAR HALE, CO. (LAT 39 37 26 LONG 102 09 47)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1980			MAY , 1981		
15...	15.0	520	04...	15.0	--
NOV			JUN		
11...	10.5	560	10...	18.0	470
DEC			JUL		
16...	10.0	550	15...	20.0	536
JAN , 1981			AUG		
19...	7.5	500	27...	16.0	500
MAR			SEP		
03...	7.0	--	21...	16.0	510
23...	9.0	450			

07081200 - ARKANSAS RIVER NEAR LEADVILLE, CO. (LAT 39 15 26 LONG 106 20 35)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1980			MAY , 1981		
22...	6.5	320	07...	10.0	290
DEC			JUN		
04...	1.0	370	30...	14.5	185
JAN , 1981			JUL		
14...	.5	440	22...	16.5	210
FEB			AUG		
19...	3.5	395	18...	17.0	240
APR			SEP		
10...	7.0	300	25...	8.5	280

07089000 - COTTONWOOD C BL HOT SPRINGS, NR BUENA VISTA, CO. (LAT 38 48 46 LONG 106 13 18)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
DEC , 1980			JUN , 1981		
05...	4.0	145	25...	14.5	135
JAN , 1981			JUL		
16...	3.0	155	22...	17.0	140
FEB			AUG		
24...	4.5	160	21...	12.0	140
APR			SEP		
10...	10.5	160	25...	9.0	140
MAY					
07...	8.0	125			

07091200 - ARKANSAS RIVER NEAR NATHROP, CO. (LAT 38 39 08 LONG 106 03 02)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1980			JUN , 1981		
24...	3.0	175	11...	12.0	175
			25...	12.0	175
DEC			JUL		
03...	4.0	190	21...	19.5	145
JAN , 1981			AUG		
13...	.0	205	21...	13.5	180
FEB			SEP		
24...	2.5	205	28...	12.0	185
MAY					
06...	11.0	187			

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)

07096500 - FOURMILE CREEK NEAR CANON CITY, CO. (LAT 38 26 11 LONG 105 11 27)

OCT , 1980			APR , 1981		
24...	10.0	600	15...	15.0	1050
NOV			JUN		
06...	11.0	1200	01...	19.0	1300
DEC			JUL		
05...	11.5	1250	27...	21.0	1250
JAN , 1981			SEP		
20...	9.5	1350	30...	16.5	1000
FEB					
26...	12.5	2300			

07099100 - BEAVER CREEK NEAR PORTLAND, CO. (LAT 38 22 27 LONG 104 57 49)

NOV , 1980			JUN , 1981		
07...	14.5	2500	01...	25.0	1900
DEC			JUL		
22...	13.0	2300	15...	22.0	2700
JAN , 1981			17...	19.0	460
20...	5.0	2800	27...	23.0	460
FEB			AUG		
26...	10.0	2800	11...	17.0	700
APR			SEP		
15...	20.0	2500	30...	16.0	500
MAY					
22...	12.5	2600			

07099235 - TURKEY CREEK NR STONE CITY, CO (LAT 38 26 27 LONG 104 49 31)

OCT , 1980			JUN , 1981		
09...	18.0	465	08...	11.0	1200
DEC			JUL		
12...	9.0	685	08...	15.0	1250
JAN , 1981			SEP		
08...	8.0	620	10...	19.0	950
FEB					
13...	9.0	520			

07103747 - MONUMENT CREEK AT PALMER LAKE, CO. (LAT 39 06 07 LONG 104 53 27)

OCT , 1980			JUN , 1981		
22...	10.5	240	15...	16.0	112
DEC			JUL		
01...	4.5	183	14...	16.0	180
JAN , 1981			AUG		
07...	1.0	170	12...	16.5	180
MAR			SEP		
11...	3.0	160	10...	15.0	190
MAY					
18...	5.5	105			
27...	14.0	78			

07103800 - WEST MONUMENT CREEK AT AIR FORCE ACADEMY, CO. (LAT 38 58 14 LONG 104 54 08)

OCT , 1980			MAY , 1981		
22...	5.0	105	18...	6.0	62
DEC			JUL		
01...	1.0	82	14...	14.0	122
JAN , 1981			AUG		
07...	.0	92	12...	11.5	95
MAR			SEP		
11...	.5	74	10...	10.5	95

DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)
07103950 - KETTLE CREEK NEAR BLACK FOREST, CO. (LAT 39 00 14 LONG 104 44 21)					
OCT , 1980			MAY , 1981		
23...	2.5	260	18...	7.5	260
DEC			JUL		
01...	2.0	258	14...	22.0	300
JAN , 1981			AUG		
07...	2.0	297	20...	18.0	255
MAR			SEP		
11...	21.0	267	10...	19.0	260
07105780 - B DITCH DRAIN NEAR SECURITY, CO. (LAT 38 45 09 LONG 104 45 43)					
APR , 1981			JUL , 1981		
02...	17.0	6500	22...	20.0	4750
23...	10.5	4250	AUG		
MAY			03...	21.0	2000
20...	8.5	5000	07...	24.0	2000
JUN			21...	24.0	6000
04...	22.0	2700			
07105800 - FOUNTAIN CREEK AT SECURITY, CO. (LAT 38 43 46 LONG 104 44 00)					
OCT , 1980			JUN , 1981		
23...	12.5	850	04...	16.5	460
DEC			JUL		
02...	6.0	925	09...	26.0	800
JAN , 1981			21...	27.0	750
06...	5.0	800	AUG		
FEB			03...	25.0	480
09...	3.0	900	06...	15.0	380
MAR			07...	23.5	540
12...	12.5	872	20...	24.0	510
APR			SEP		
24...	21.0	800	09...	21.0	695
MAY					
19...	8.5	650			
07105820 - CLOVER DITCH DRAIN NEAR WIDEFIELD, CO. (LAT 38 43 07 LONG 104 43 43)					
APR , 1981			JUL , 1981		
01...	15.0	1205	09...	25.0	1470
22...	14.0	840	21...	25.0	650
MAY			AUG		
20...	20.5	1290	03...	25.0	1000
26...	21.0	1125	07...	23.0	1350
28...	20.0	1290	20...	22.0	1400
07105900 - JIMMY CAMP CREEK AT FOUNTAIN, CO. (LAT 38 41 04 LONG 104 41 17)					
OCT , 1980			APR , 1981		
23...	14.0	2800	17...	21.0	3850
DEC			MAY		
02...	9.0	2700	29...	18.0	2500
JAN , 1981			JUL		
06...	4.0	2600	17...	23.0	3800
FEB			SEP		
09...	2.5	2600	09...	21.5	2800
MAR					
12...	13.0	2550			
07105924 - WOMACK DITCH NEAR FORT CARSON, CO. (LAT 38 40 52 LONG 104 51 20)					
OCT , 1980			MAR , 1981		
07...	14.0	137	18...	5.0	135
NOV			APR		
07...	7.0	130	23...	10.0	115
DEC			MAY		
11...	5.0	140	20...	12.5	118
JAN , 1981			JUL		
06...	4.5	120	13...	18.5	99
FEB			AUG		
12...	4.0	110	21...	13.0	80

07105928 - LITTLE FOUNTAIN CREEK NEAR FORT CARSON, CO. (LAT 38 40 49 LONG 104 51 06)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1980			MAY , 1981		
08...	13.0	195	20...	15.0	165
NOV			JUN		
07...	10.5	255	05...	9.0	70
DEC			15...	14.5	81
11...	3.0	220	JUL		
JAN , 1981			22...	16.0	72
06...	2.5	205	AUG		
MAR			21...	15.0	65
18...	6.0	210			
APR					
23...	15.0	165			

07105960 - ROCK CREEK NEAR FOUNTAIN, CO. (LAT 38 39 16 LONG 104 44 48)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1980			MAR , 1981		
07...	12.0	1325	19...	11.0	1150
NOV			APR		
06...	15.0	1190	16...	12.0	1760
DEC			MAY		
10...	9.5	1100	29...	15.0	1200
JAN , 1981			SEP		
06...	6.0	1050	16...	13.0	1000
FEB					
13...	5.5	1050			

07108900 - ST. CHARLES RIVER AT VINELAND, CO. (LAT 38 14 44 LONG 104 29 09)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1980			JUN , 1981		
06...	16.0	2990	01...	22.0	1850
NOV			08...	28.0	2900
13...	8.0	3100	22...	25.0	2900
DEC			JUL		
12...	6.0	3800	02...	27.0	2980
JAN , 1981			17...	23.0	--
26...	4.0	3000	AUG		
FEB			05...	26.0	2000
26...	8.5	1850	10...	17.0	--
APR			21...	12.0	2400
06...	17.0	2750			
MAY					
04...	20.0	2800			

07109500 - ARKANSAS RIVER NEAR AVONDALE, CO. (LAT 38 14 53 LONG 104 23 55)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1980			MAY , 1981		
06...	21.5	850	08...	15.0	860
NOV			JUN		
13...	9.0	940	19...	26.0	750
21...	6.0	1100	JUL		
DEC			14...	26.0	645
12...	8.0	1220	AUG		
JAN , 1981			21...	19.0	975
26...	6.5	1200	SEP		
FEB			09...	22.0	--
27...	8.0	1020	22...	20.0	--
APR					
08...	15.0	1170			

07116500 - HUERFANO RIVER NEAR BOONE, CO. (LAT 38 13 33 LONG 104 15 40)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
NOV , 1980			MAY , 1981		
19...	.5	2950	06...	27.0	6200
DEC			JUL		
11...	7.0	2600	13...	35.0	--
JAN , 1981			15...	34.0	--
28...	.0	5000	AUG		
MAR			05...	25.0	2800
06...	16.0	6000	21...	22.0	1900
APR					
08...	24.0	6500			

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
07119500 - APISHAPA RIVER NEAR FOWLER, CO. (LAT 38 05 28 LONG 103 58 52)					
OCT , 1980			MAY , 1981		
07...	14.5	1870	06...	16.5	2450
NOV			JUN		
18...	7.5	2950	10...	25.0	2800
JAN , 1981			11...	26.0	--
07...	6.0	3000	JUL		
FEB			09...	29.0	3000
19...	9.0	2750	14...	27.0	--
MAR			SEP		
25...	14.5	2900	02...	26.0	2100
07121500 - TIMPAS CREEK AT MOUTH NEAR SWINK, CO. (LAT 38 00 10 LONG 103 39 18)					
OCT , 1980			MAR , 1981		
08...	16.0	1950	26...	16.5	2000
NOV			MAY		
19...	4.0	1930	07...	21.5	2200
JAN , 1981			JUN		
08...	6.0	2150	10...	27.0	2000
FEB			JUL		
20...	9.0	2100	14...	26.0	3000
07122400 - CROOKED ARROYO NEAR SWINK, CO. (LAT 37 58 56 LONG 103 35 52)					
OCT , 1980			MAR , 1981		
08...	14.0	1620	26...	11.0	2150
NOV			MAY		
18...	9.0	3000	07...	16.0	4400
JAN , 1981			JUN		
08...	5.0	3400	11...	19.0	1950
FEB			JUL		
20...	9.0	3250	14...	28.0	3400
07123675 - HORSE CREEK NEAR LAS ANIMAS, CO. (LAT 38 05 07 LONG 103 21 10)					
OCT , 1980			APR , 1981		
17...	16.0	5200	24...	23.0	--
NOV			MAY		
13...	8.5	5000	22...	25.0	4100
DEC			JUN		
01...	6.0	5200	16...	28.0	3600
FEB , 1981			JUL		
17...	14.0	4500	14...	35.0	--
MAR					
24...	9.0	4700			
07124000 - ARKANSAS RIVER AT LAS ANIMAS, CO. (LAT 38 04 51 LONG 103 13 09)					
OCT , 1980			MAY , 1981		
03...	13.0	1900	07...	19.0	3600
17...	16.0	3500	19...	23.5	2900
NOV			JUN		
07...	16.0	3700	03...	22.5	3200
DEC			17...	20.0	1350
09...	4.0	2600	29...	21.0	2600
FEB , 1981			JUL		
17...	11.0	2900	14...	23.0	2500
MAR			29...	23.5	1200
25...	9.0	--	SEP		
APR			11...	19.0	1700
24...	21.0	--	24...	17.5	3000

07124300 - LONG CANYON CREEK NEAR MADRID, CO. (LAT 37 06 53 LONG 104 36 17)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1980		
08...	15.0	553
NOV		
18...	3.0	580
DEC		
18...	7.5	535
JAN , 1981		
21...	2.5	588
FEB		
27...	7.0	565
APR		
08...	18.5	552
MAY , 1981		
11...	15.5	562
JUN		
18...	22.5	565
AUG		
11...	18.0	150
12...	19.5	170
26...	19.0	322
SEP		
24...	23.0	480

07128500 - PURGATOIRE RIVER NEAR LAS ANIMAS, CO. (LAT 38 02 02 LONG 103 12 00)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1980		
03...	19.0	3000
NOV		
04...	10.5	4000
DEC		
02...	4.0	4700
FEB , 1981		
18...	--	4000
MAR		
24...	13.0	4800
APR		
23...	21.0	5800
MAY		
06...	22.0	5700
19...	21.0	5000
JUN , 1981		
02...	23.0	1800
03...	21.0	1800
16...	26.0	3400
29...	23.0	4800
JUL		
03...	30.0	3200
06...	22.0	1030
14...	28.0	--
29...	23.0	1400
SEP		
11...	22.0	1200
23...	23.0	2050

07133000 - ARKANSAS RIVER AT LAMAR, CO. (LAT 38 06 24 LONG 102 37 04)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1980		
01...	22.0	2650
16...	11.0	2900
NOV		
04...	14.0	4100
DEC		
04...	7.0	1800
FEB , 1981		
19...	13.0	5000
MAR		
26...	15.0	5000
APR		
23...	14.0	3100
MAY , 1981		
08...	14.0	3400
21...	23.0	3800
JUN		
04...	18.0	2900
18...	18.0	2600
30...	24.0	2500
JUL		
31...	23.0	2000
SEP		
09...	21.0	2400
24...	22.0	3000

07134100 - BIG SANDY CREEK NEAR LAMAR, CO. (LAT 38 06 51 LONG 102 29 00)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1980		
01...	19.5	4000
NOV		
06...	11.5	5000
DEC		
04...	2.0	5000
FEB , 1981		
19...	8.0	4600
MAR		
26...	9.0	5500
APR		
22...	19.0	4600
MAY		
21...	21.0	3300
JUN		
17...	29.0	4700

08216500 - WILLOW CREEK AT CREEDE, CO. (LAT 37 51 22 LONG 106 55 37)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
NOV , 1980		
05...	2.0	140
DEC		
10...	.0	145
FEB , 1981		
25...	3.5	205
APR		
08...	10.0	280
MAY		
07...	10.0	123
JUN		
12...	12.0	120

08217500 - RIO GRANDE AT WAGONWHEEL GAP, CO. (LAT 37 46 01 LONG 106 49 51)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
NOV , 1980		
05...	8.0	120
DEC		
10...	.0	180
FEB , 1981		
25...	.5	105
APR		
08...	.0	120
MAY		
11...	10.0	130

06695000 - S PLATTE R AB 11-MILE CANYON RE, NR HARTSEL, CO. (LAT 38 58 03 LONG 105 34 51)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT , 1980		MAY , 1981	
14...	8.5	11...	10.0
27...	3.0	27...	19.0
NOV		JUN	
10...	6.5	08...	14.0
24...	1.0	24...	20.5
DEC		JUL	
15...	.0	06...	23.0
JAN , 1981		20...	20.0
05...	.0	AUG	
26...	.0	03...	23.0
FEB		17...	21.0
16...	.0	31...	16.5
MAR		SEP	
09...	.0	14...	15.0
30...	.0	28...	14.5
APR			
13...	10.0		
27...	12.0		

06696000 - SOUTH PLATTE RIVER NEAR LAKE GEORGE, CO. (LAT 38 54 19 LONG 105 28 22)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT , 1980		APR , 1981	
14...	8.0	27...	6.0
27...	7.5	MAY	
NOV		11...	7.5
10...	6.5	27...	9.5
24...	3.0	JUN	
DEC		08...	10.0
15...	3.5	24...	10.5
JAN , 1981		JUL	
05...	3.5	20...	13.0
26...	4.0	AUG	
FEB		03...	14.0
16...	5.5	17...	15.0
MAR		31...	15.0
09...	4.5	SEP	
30...	4.5	14...	16.0
APR		28...	14.5
13...	5.0		

06700500 - GOOSE CREEK ABOVE CHEESMAN LAKE, CO. (LAT 39 12 32 LONG 105 18 11)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT , 1980		MAY , 1981	
08...	11.5	05...	10.0
23...	3.0	22...	8.5
NOV		JUN	
05...	3.0	04...	11.0
10...	2.5	17...	14.0
24...	.5	JUL	
DEC		01...	16.5
15...	.5	14...	16.0
JAN , 1981		27...	14.0
05...	.5	AUG	
26...	.0	03...	17.0
FEB		17...	11.5
16...	.5	31...	13.0
MAR		SEP	
09...	2.0	14...	11.0
30...	5.0	28...	9.5
APR			
13...	3.0		
23...	3.5		

06701500 - SOUTH PLATTE RIVER BELOW CHEESMAN LAKE, CO. (LAT 39 12 33 LONG 105 16 02)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		MAY , 1981	
08...	7.0	05...	5.5
23...	5.5	22...	6.0
NOV		JUN	
05...	8.0	04...	6.0
10...	7.5	17...	7.0
24...	6.0	JUL	
DEC		01...	6.5
15...	5.5	14...	6.0
JAN , 1981		27...	6.0
05...	5.0	AUG	
26...	3.0	03...	6.0
FEB		17...	6.5
16...	3.5	31...	6.5
MAR		SEP	
09...	4.0	14...	6.5
30...	4.5	28...	9.0
APR			
13...	5.0		
23...	4.5		

06706000 - NF SOUTH PLATTE R BELOW GENEVA C, AT GRANT, CO. (LAT 39 27 26 LONG 105 39 29)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		MAY , 1981	
14...	7.5	12...	4.5
28...	.5	28...	8.0
NOV		JUN	
11...	7.0	09...	10.0
25...	3.5	25...	7.0
DEC		JUL	
16...	4.0	07...	8.0
JAN , 1981		21...	9.0
06...	3.5	AUG	
27...	3.0	05...	7.5
FEB		18...	8.5
17...	4.5	SEP	
MAR		02...	7.5
10...	4.5	15...	10.5
31...	.0	29...	8.0
APR			
14...	9.5		
28...	10.5		

06707000 - NF SOUTH PLATTE RIVER AT SOUTH PLATTE, CO. (LAT 39 24 32 LONG 105 10 31)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		APR , 1981	
07...	8.0	07...	6.0
22...	4.0	21...	8.5
NOV		MAY	
05...	6.5	06...	8.0
18...	.0	19...	9.0
DEC		JUN	
01...	.5	03...	13.0
17...	1.0	17...	9.0
30...	.5	JUL	
JAN , 1981		01...	13.0
13...	.0	15...	14.5
28...	.5	29...	12.5
FEB		AUG	
11...	.0	11...	11.0
24...	1.0	27...	10.0
MAR		SEP	
09...	.0	10...	11.0
24...	2.5	22...	10.5

06707500 - SOUTH PLATTE RIVER AT SOUTH PLATTE, CO. (LAT 39 24 33 LONG 105 10 10)

DATE	TEMPER- ATURE (DEG C)	DATE	TEMPER- ATURE (DEG C)
OCT , 1980		APR , 1981	
07...	9.0	07...	6.5
22...	4.0	21...	9.0
NOV		MAY	
05...	7.0	06...	9.5
18...	.0	19...	10.0
DEC		JUN	
01...	.5	03...	15.0
17...	2.0	17...	10.5
30...	.5	JUL	
JAN , 1981		01...	14.0
13...	.0	15...	15.5
28...	.5	29...	13.0
FEB		AUG	
11...	.0	11...	10.0
24...	1.0	27...	11.0
MAR		SEP	
09...	1.0	10...	11.5
24...	3.0	22...	12.0

06711500 - BEAR CREEK AT MOUTH, AT SHERIDAN, CO. (LAT 39 39 08 LONG 105 01 57)

DATE	TEMPER- ATURE (DEG C)	DATE	TEMPER- ATURE (DEG C)
OCT , 1980		APR , 1981	
02...	12.5	27...	21.0
14...	13.0	MAY	
28...	7.0	13...	13.0
NOV		29...	15.0
10...	7.0	JUN	
24...	4.0	09...	24.0
DEC		23...	23.5
09...	2.0	JUL	
23...	5.5	08...	19.0
JAN , 1981		22...	23.5
08...	4.0	AUG	
20...	5.5	04...	20.0
FEB		18...	13.0
03...	5.0	SEP	
18...	7.0	02...	17.0
MAR		15...	16.0
03...	6.5	29...	18.0
17...	8.5		
APR			
02...	10.0		
15...	14.5		

06714000 - SOUTH PLATTE RIVER AT DENVER, CO. (LAT 39 45 35 LONG 105 00 10)

DATE	TEMPER- ATURE (DEG C)	DATE	TEMPER- ATURE (DEG C)
OCT , 1980		APR , 1981	
15...	18.0	28...	17.0
27...	11.0	MAY	
NOV		13...	13.0
11...	14.0	28...	20.0
25...	7.5	JUN	
DEC		08...	20.5
09...	10.5	23...	25.0
23...	7.0	JUL	
JAN , 1981		07...	26.0
08...	8.0	21...	26.0
20...	8.0	AUG	
FEB		03...	25.0
04...	7.0	17...	23.5
18...	10.0	SEP	
MAR		01...	24.0
03...	11.0	16...	17.0
APR		28...	20.5
02...	15.0		

06716500 - CLEAR CREEK NEAR LAWSON, CO. (LAT 39 45 57 LONG 105 37 32)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		APR , 1981	
02...	9.5	02...	8.0
14...	8.0	15...	7.0
28...	1.5	27...	9.0
NOV		MAY	
10...	2.0	13...	5.5
24...	1.0	29...	12.0
DEC		JUN	
09...	.0	09...	10.0
23...	1.5	23...	11.5
JAN , 1981		JUL	
08...	.0	08...	14.5
20...	.0	22...	13.5
FEB		AUG	
03...	.0	04...	16.0
18...	2.5	18...	16.0
27...	2.0	SEP	
MAR		02...	15.5
03...	1.0	15...	10.5
17...	1.0	29...	9.0

06720000 - CLEAR CREEK AT MOUTH, NEAR DERBY, CO. (LAT 39 49 42 LONG 104 57 30)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		APR , 1981	
15...	14.0	28...	15.0
27...	6.0	MAY	
NOV		13...	13.0
11...	8.0	28...	19.0
25...	5.5	JUN	
DEC		08...	20.0
09...	2.5	23...	22.0
23...	7.0	JUL	
JAN , 1981		07...	24.0
08...	4.5	21...	25.0
20...	5.0	AUG	
FEB		03...	24.0
04...	.0	17...	24.0
18...	.0	SEP	
MAR		01...	24.0
03...	6.5	16...	18.0
APR		28...	20.0
02...	13.5		

06720500 - SOUTH PLATTE RIVER AT HENDERSON, CO. (LAT 39 55 19 LONG 104 52 00)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		MAY , 1981	
15...	16.5	13...	12.0
NOV		28...	18.5
11...	12.0	JUN	
25...	11.0	08...	20.0
DEC		23...	20.0
09...	7.0	JUL	
23...	12.0	07...	20.5
JAN , 1981		21...	21.0
08...	9.5	AUG	
20...	9.5	03...	21.0
FEB		17...	20.0
04...	5.0	SEP	
18...	10.0	01...	20.0
MAR		16...	18.0
03...	10.0	28...	18.0
APR			
02...	13.5		
28...	15.5		

06725500 - MIDDLE BOULDER CREEK AT NEDERLAND, CO. (LAT 39 57 42 LONG 105 30 14)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT , 1980		APR , 1981	
07...	9.0	07...	3.0
20...	2.0	21...	5.0
NOV		MAY	
04...	2.0	05...	8.0
18...	.0	09...	5.5
DEC		JUN	
02...	.5	02...	6.0
17...	1.0	29...	10.5
30...	.5	JUL	
JAN , 1981		14...	13.0
13...	.5	28...	13.0
28...	.5	AUG	
FEB		11...	11.5
09...	.0	27...	14.0
24...	.5	SEP	
MAR		08...	9.0
11...	.0	21...	12.0
24...	2.5		

06727000 - BOULDER CREEK NEAR ORODELL, CO. (LAT 40 00 23 LONG 105 19 49)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT , 1980		APR , 1981	
07...	8.0	07...	4.0
20...	2.0	21...	6.0
NOV		MAY	
04...	3.5	05...	9.0
18...	.0	19...	7.0
DEC		JUN	
02...	.5	02...	10.5
17...	3.0	29...	14.0
30...	.5	JUL	
JAN , 1981		14...	15.0
13...	.0	28...	16.0
28...	.5	AUG	
FEB		11...	14.0
09...	.0	27...	16.5
24...	.0	SEP	
MAR		08...	13.5
11...	.0	18...	15.0
24...	3.0	24...	15.0

06729500 - SOUTH BOULDER CREEK NEAR ELDORADO SPRINGS, CO. (LAT 39 55 52 LONG 105 17 43)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT , 1980		APR , 1981	
08...	13.0	08...	8.0
21...	8.0	22...	6.5
NOV		MAY	
05...	5.0	06...	6.0
19...	2.0	20...	6.5
DEC		JUN	
03...	5.5	01...	7.5
18...	4.0	30...	11.0
31...	2.0	JUL	
JAN , 1981		15...	10.0
14...	.0	29...	12.0
29...	.5	AUG	
FEB		13...	12.0
10...	1.0	26...	14.5
25...	3.0	SEP	
MAR		09...	15.5
12...	4.0	22...	13.0
25...	7.5		

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
06733000 - BIG THOMPSON RIVER AT ESTES PARK, CO. (LAT 40 22 42 LONG 105 30 48)			
OCT , 1980		MAR , 1981	
02...	8.0	19...	3.5
15...	5.5	26...	3.0
NOV		APR	
05...	3.0	20...	10.0
26...	.0	MAY	
DEC		21...	8.0
03...	.5	JUN	
10...	.0	04...	9.5
17...	.5	11...	8.0
24...	.0	18...	10.0
31...	.5	JUL	
JAN , 1981		02...	13.0
07...	.0	16...	13.0
14...	.0	AUG	
21...	.0	06...	19.0
28...	.0	20...	14.0
FEB		SEP	
04...	.0	03...	13.0
11...	1.0	17...	9.0
25...	.0		
MAR			
05...	.0		
12...	.0		
06735500 - BIG THOMPSON RIVER NEAR ESTES PARK, CO. (LAT 40 22 35 LONG 105 29 06)			
OCT , 1980		APR , 1981	
02...	12.0	20...	8.0
15...	11.0	MAY	
NOV		21...	8.5
05...	6.0	JUN	
26...	2.0	04...	10.0
DEC		18...	11.0
24...	1.0	JUL	
JAN , 1981		02...	15.0
07...	2.5	16...	17.0
21...	2.5	AUG	
FEB		06...	18.0
04...	1.5	20...	16.0
25...	3.0	SEP	
MAR		17...	14.0
05...	3.0		
19...	3.5		
06754000 - SOUTH PLATTE RIVER NEAR KERSEY, CO. (LAT 40 24 44 LONG 104 33 46)			
OCT , 1980		MAR , 1981	
15...	14.0	03...	8.0
21...	13.5	MAY	
29...	7.0	05...	15.0
NOV		12...	17.0
14...	6.0	29...	17.0
DEC		JUN	
02...	4.0	05...	24.0
16...	7.0	17...	20.0
23...	7.0	AUG	
JAN , 1981		31...	19.0
07...	3.0	SEP	
20...	4.5	22...	18.0
FEB			
02...	1.0		
17...	8.0		

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
07095000 - GRAPE CREEK NEAR WESTCLIFFE, CO. (LAT 38 11 10 LONG 105 28 59)			
JAN , 1981		JUN , 1981	
29...	2.0	03...	17.5
FEB		19...	21.5
11...	.0	JUL	
26...	5.5	02...	24.0
26...	5.5	16...	24.5
MAR		31...	23.5
24...	8.5	AUG	
APR		28...	19.0
08...	10.5	SEP	
23...	19.0	11...	14.5
MAY		11...	14.5
07...	17.0	24...	18.0
20...	16.5		
07096000 - ARKANSAS RIVER AT CANON CITY, CO. (LAT 38 26 02 LONG 105 15 24)			
MAR , 1981		JUL , 1981	
19...	9.5	08...	20.5
31...	9.5	AUG	
MAY		17...	18.0
12...	15.0	SEP	
26...	16.0	28...	17.5
07099400 - ARKANSAS RIVER ABOVE PUEBLO, CO. (LAT 38 16 17 LONG 104 43 06)			
DEC , 1980		JUL , 1981	
17...	6.5	01...	19.0
MAR , 1981		08...	22.5
19...	6.0	13...	22.0
31...	8.0	27...	23.0
MAY		AUG	
04...	12.0	17...	20.0
12...	14.5	SEP	
18...	14.5	09...	22.5
26...	15.0	21...	21.0
27...	16.0	28...	19.5
JUN			
15...	19.5		
07111000 - HUERFANO R AT MANZANARES XING, NR REDWING, CO. (LAT 37 43 40 LONG 105 21 03)			
OCT , 1980		JUN , 1981	
14...	10.0	03...	9.0
JAN , 1981		19...	14.0
29...	2.5	JUL	
FEB		02...	15.5
11...	.0	16...	19.0
26...	4.5	31...	18.0
MAR		AUG	
24...	8.0	28...	15.0
APR		SEP	
08...	10.5	11...	9.5
23...	14.0	24...	15.5
MAY			
07...	12.0		
20...	15.5		

07114000 - CUCHARAS RIVER AT BOYD RANCH, NEAR LA VETA, CO. (LAT 37 25 12 LONG 105 03 08)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
JAN , 1981		JUN , 1981	
29...	1.0	03...	12.5
FEB		19...	12.0
11...	.0	JUL	
26...	2.5	02...	13.0
MAR		16...	15.0
24...	4.0	31...	16.0
APR		AUG	
08...	7.5	28...	13.5
23...	8.5	SEP	
MAY		11...	12.5
07...	9.0	24...	12.5
20...	11.0		

07123000 - ARKANSAS RIVER AT LA JUNTA, CO. (LAT 37 59 26 LONG 103 31 55)

OCT , 1980		APR , 1981	
06...	22.0	07...	25.0
14...	22.0	14...	21.0
21...	16.0	22...	26.0
28...	9.0	27...	22.0
NOV		MAY	
05...	16.0	01...	28.0
13...	8.0	12...	20.0
19...	10.0	19...	22.0
26...	3.0	26...	33.0
DEC		JUN	
03...	6.0	01...	25.0
11...	8.0	09...	24.0
17...	9.0	16...	23.0
30...	8.0	23...	31.0
JAN , 1981		30...	31.0
07...	6.0	JUL	
22...	7.0	07...	29.0
FEB		14...	35.0
05...	5.0	AUG	
16...	14.0	04...	26.0
24...	14.0	13...	23.0
MAR		19...	23.5
06...	15.0	26...	27.0
17...	11.0		
24...	16.0		
31...	17.0		

07123000 - ARKANSAS RIVER AT LA JUNTA, CO. (LAT 37 59 26 LONG 103 31 55)

SEP , 1981		SEP , 1981	
02...	24.0	21...	23.0
10...	26.0	28...	26.0
17...	20.0		

07124500 - PURGATOIRE RIVER AT TRINIDAD, CO. (LAT 37 10 15 LONG 104 30 31)

OCT , 1980		APR , 1981	
23...	8.5	30...	13.0
NOV		MAY	
06...	7.0	14...	14.0
21...	3.0	28...	17.0
DEC		JUN	
11...	2.5	09...	16.5
23...	4.5	23...	19.0
JAN , 1981		JUL	
07...	2.5	07...	22.0
22...	1.0	24...	18.0
FEB		AUG	
05...	2.0	07...	19.0
19...	8.5	18...	19.0
MAR		SEP	
12...	8.5	03...	18.0
26...	10.0	18...	18.5

07126500 - PURGATOIRE RIVER AT NINEMILE DAM, NR HIGBEE, CO. (LAT 37 44 06 LONG 103 29 45)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		MAR , 1981	
01...	19.0	31...	13.0
06...	18.0	APR	
28...	6.0	14...	17.0
NOV		22...	19.0
05...	14.0	JUN	
13...	8.0	10...	25.0
19...	1.5	16...	20.0
26...	1.0	23...	27.0
DEC		30...	23.0
03...	4.0	JUL	
17...	5.0	07...	27.0
30...	6.0	AUG	
JAN , 1981		19...	23.0
22...	1.5	26...	24.0
FEB		SEP	
06...	2.0	09...	21.0
13...	13.0	17...	16.0
24...	7.0	21...	19.0
MAR		28...	19.0
06...	9.0		
24...	10.0		

08213500 - RIO GRANDE AT THIRTYMILE BRIDGE, NR CREEDE, CO. (LAT 37 43 29 LONG 107 15 18)

OCT , 1980		JUN , 1981	
07...	12.0	11...	10.0
22...	8.5	23...	10.0
NOV		JUL	
05...	9.0	06...	14.0
FEB , 1981		23...	13.0
08...	4.0	AUG	
APR		06...	13.0
07...	4.5	20...	15.0
21...	9.0	SEP	
MAY		01...	13.0
07...	10.0	16...	12.0
27...	10.0	29...	12.0

08214500 - NORTH CLEAR CREEK BL CONTINENTAL RESERVOIR, CO. (LAT 37 53 18 LONG 107 12 10)

OCT , 1980		JUN , 1981	
07...	10.5	11...	11.0
22...	7.0	23...	11.0
NOV		JUL	
05...	6.0	06...	13.0
FEB , 1981		23...	13.5
08...	4.5	AUG	
APR		06...	12.0
07...	6.5	20...	13.0
21...	5.0	SEP	
MAY		01...	13.5
07...	6.0	16...	12.0
27...	8.0	29...	11.0

08218500 - GOOSE CREEK AT WAGONWHEEL GAP, CO. (LAT 37 45 07 LONG 106 49 46)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		MAY , 1981	
07...	13.0	13...	9.0
NOV		28...	10.0
05...	3.0	JUN	
18...	.0	09...	10.0
DEC		24...	15.0
03...	.5	JUL	
22...	1.0	07...	18.0
JAN , 1981		23...	15.0
12...	.5	AUG	
FEB		06...	18.0
02...	.0	18...	11.0
24...	3.0	31...	13.0
MAR		SEP	
16...	1.5	16...	13.5
30...	1.0	29...	12.0
APR			
14...	2.5		
29...	10.0		

08219500 - SOUTH FORK RIO GRANDE AT SOUTH FORK, CO. (LAT 37 39 25 LONG 106 38 55)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		APR , 1981	
08...	8.0	29...	9.0
NOV		MAY	
05...	3.0	13...	8.0
18...	.0	28...	9.0
DEC		JUN	
04...	.0	09...	10.0
22...	.0	24...	17.0
JAN , 1981		JUL	
12...	.0	07...	17.0
FEB		AUG	
02...	.0	06...	18.0
24...	1.0	18...	13.0
MAR		31...	11.0
16...	1.5	SEP	
30...	1.0	16...	13.5
APR			
14...	3.0		

08220000 - RIO GRANDE NEAR DEL NORTE, CO. (LAT 37 41 22 LONG 106 27 38)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		APR , 1981	
01...	8.0	01...	8.0
10...	7.5	10...	4.5
22...	3.0	20...	9.0
NOV		MAY	
01...	6.0	01...	7.5
20...	.0	11...	8.0
DEC		22...	10.0
01...	.0	JUN	
10...	.0	01...	8.0
22...	.0	09...	12.0
JAN , 1981		19...	13.0
12...	.5	JUL	
20...	.5	09...	19.0
FEB		AUG	
02...	.0	20...	20.0
20...	2.0	SEP	
MAR		01...	16.0
02...	1.0		
10...	.5		
21...	1.0		

08220500 - PINOS CREEK NEAR DEL NORTE, CO. (LAT 37 35 30 LONG 106 26 58)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		APR , 1981	
08...	5.0	29...	4.0
NOV		MAY	
05...	5.0	13...	4.0
18...	1.0	28...	12.0
DEC		JUN	
04...	.0	09...	8.0
22...	.0	24...	11.0
JAN , 1981		JUL	
12...	.0	07...	19.0
FEB		22...	16.0
02...	.0	AUG	
24...	.0	06...	19.0
MAR		18...	13.0
16...	.0	31...	13.0
30...	.5	SEP	
APR		16...	12.0
14...	4.0		

08224500 - KERBER C AT ASHLEY RANCH, NR VILLA GROVE, CO. (LAT 38 14 28 LONG 106 06 57)

OCT , 1980		MAR , 1981	
13...	11.0	05...	.5
27...	1.5	24...	.0
NOV		APR	
25...	.0	06...	2.0
DEC		21...	14.0
08...	.0	MAY	
29...	.0	07...	10.0
JAN , 1981		18...	17.0
22...	.0	JUN	
FEB		03...	9.0
11...	.0	16...	8.5

08227000 - SAGUACHE CREEK NEAR SAGUACHE, CO. (LAT 38 09 48 LONG 106 17 24)

OCT , 1980		MAR , 1981	
13...	12.5	05...	2.5
27...	2.5	24...	7.0
NOV		APR	
25...	.0	06...	12.0
DEC		21...	9.0
08...	.0	MAY	
29...	.5	07...	9.0
JAN , 1981		18...	11.5
22...	.0	JUN	
FEB		03...	12.0
11...	.5	16...	14.0

08227500 - NORTH CRESTONE CREEK NEAR CRESTONE, CO. (LAT 38 00 49 LONG 105 41 32)

OCT , 1980		APR , 1981	
13...	6.0	06...	.5
27...	1.0	21...	5.0
NOV		MAY	
25...	.0	07...	6.0
DEC		18...	8.0
08...	.0	JUN	
JAN , 1981		03...	5.0
22...	.0	16...	4.0
FEB		SEP	
11...	.0	22...	7.5
MAR			
05...	.0		
24...	.5		

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
08230500 - CARNERO CREEK NEAR LA GARITA, CO. (LAT 37 51 35 LONG 106 19 08)			
OCT , 1980		MAR , 1981	
13...	11.0	25...	4.0
NOV		APR	
25...	.0	07...	7.0
DEC		20...	5.0
08...	.0	MAY	
29...	.5	06...	10.0
JAN , 1981		18...	9.0
22...	.0	JUN	
FEB		01...	8.0
10...	.0	16...	8.0
MAR			
02...	.5		
08231000 - LA GARITA CREEK NEAR LA GARITA, CO. (LAT 37 48 48 LONG 106 19 04)			
OCT , 1980		MAR , 1981	
13...	13.0	05...	1.0
NOV		25...	4.5
25...	.0	APR	
DEC		07...	8.0
08...	.0	20...	7.5
29...	1.0	MAY	
JAN , 1981		06...	8.0
22...	.0	18...	8.0
FEB		JUN	
10...	.0	01...	7.5
MAR		16...	9.0
02...	.5		
08236000 - ALAMOSA CREEK ABOVE TERRACE RESERVOIR, CO. (LAT 37 22 29 LONG 106 20 03)			
OCT , 1980		MAR , 1981	
15...	6.5	11...	.5
29...	.5	30...	4.5
NOV		APR	
10...	3.0	14...	3.0
24...	.0	27...	8.0
DEC		MAY	
17...	.5	12...	7.0
JAN , 1981		28...	8.0
07...	.5	JUN	
27...	.0	08...	9.0
FEB		JUL	
18...	.5	06...	16.0
08238000 - LA JARA CREEK AT GALLEGOS RANCH, NR CAPULIN, CO. (LAT 37 12 32 LONG 106 11 16)			
OCT , 1980		MAR , 1981	
15...	6.5	12...	4.0
29...	.5	30...	6.0
NOV		APR	
10...	7.0	14...	5.5
24...	.0	27...	15.5
DEC		MAY	
17...	.0	12...	8.0
JAN , 1981		25...	14.0
07...	.0	JUN	
27...	.0	08...	13.0
FEB		JUL	
18...	.5	06...	17.0

08240000 - RIO GRANDE AB MOUTH TRINCHERA C NR LASAUSES, CO. (LAT 37 18 58 LONG 105 44 32)

DATE	TEMPER- ATURE (DEG C)	DATE	TEMPER- ATURE (DEG C)
OCT , 1980		MAY , 1981	
06...	19.0	12...	13.0
NOV		26...	19.0
06...	9.0	JUN	
18...	.0	09...	25.0
DEC		24...	25.0
03...	.0	JUL	
23...	2.0	09...	22.0
JAN , 1981		21...	21.0
13...	.5	AUG	
FEB		05...	25.0
02...	.0	18...	22.0
MAR		SEP	
18...	7.0	03...	20.0
30...	8.0	17...	18.0
APR		30...	16.0
14...	7.0		
27...	9.0		

08240500 - TRINCHERA C AB TURNERS RANCH, NR FT GARLAND, CO. (LAT 37 22 29 LONG 105 17 40)

DATE	TEMPER- ATURE (DEG C)	DATE	TEMPER- ATURE (DEG C)
OCT , 1980		MAY , 1981	
30...	4.0	06...	10.0
NOV		19...	12.0
13...	4.0	JUN	
24...	.0	05...	9.0
DEC		17...	15.0
09...	.5	30...	13.0
30...	.5	JUL	
JAN , 1981		16...	17.0
22...	.5	28...	17.0
FEB		AUG	
10...	.0	13...	10.0
MAR		25...	14.5
02...	3.0	SEP	
04...	.5	09...	13.0
24...	3.5	25...	7.0
APR			
06...	8.5		
20...	11.0		

08241500 - SANGRE DE CRISTO CREEK NEAR FORT GARLAND, CO. (LAT 37 25 30 LONG 105 24 52)

DATE	TEMPER- ATURE (DEG C)	DATE	TEMPER- ATURE (DEG C)
NOV , 1980		MAY , 1981	
13...	6.0	08...	10.5
24...	.0	22...	14.0
DEC		JUN	
09...	1.0	17...	19.0
JAN , 1981		30...	25.0
22...	.5	JUL	
FEB		16...	24.0
11...	1.0	28...	23.0
MAR		AUG	
04...	2.0	12...	15.0
24...	2.0	25...	21.0
APR		SEP	
06...	13.0	09...	16.5
20...	14.0		

08242500 - UTE CREEK NEAR FORT GARLAND, CO. (LAT 37 26 50 LONG 105 25 30)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
NOV , 1980		MAY , 1981	
13...	4.0	08...	6.5
24...	.0	22...	12.0
DEC		JUN	
09...	.0	05...	10.5
30...	.5	17...	13.0
JAN , 1981		30...	14.0
23...	.5	JUL	
FEB		15...	15.0
11...	.0	28...	18.0
MAR		AUG	
04...	4.0	12...	11.0
24...	2.0	25...	14.0
APR		SEP	
06...	11.0	09...	11.0
22...	12.0		

08243500 - TRINCHERA CREEK BELOW SMITH RES. NR BLANCA, CO. (LAT 37 23 10 LONG 105 33 02)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
NOV , 1980		MAY , 1981	
13...	6.0	08...	10.0
24...	3.5	22...	11.5
DEC		JUN	
09...	2.0	05...	14.0
30...	2.0	30...	15.0
JAN , 1981		JUL	
22...	1.5	15...	16.0
FEB		28...	17.0
11...	2.0	AUG	
MAR		12...	15.0
04...	2.0	25...	15.0
24...	4.5	SEP	
APR		09...	14.0
06...	9.0		

08245000 - CONEJOS RIVER BELOW PLATORO RESERVOIR, CO. (LAT 37 21 18 LONG 106 32 37)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		MAY , 1981	
15...	7.0	29...	6.0
NOV		JUN	
04...	5.0	08...	7.0
APR , 1981		JUL	
24...	4.0	06...	12.0
MAY			
12...	4.0		

08246500 - CONEJOS RIVER NEAR MOGOTE, CO. (LAT 37 03 14 LONG 106 11 13)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		APR , 1981	
01...	12.0	01...	7.0
10...	12.0	10...	10.0
20...	5.0	20...	11.0
NOV		MAY	
01...	6.5	01...	10.0
10...	7.0	11...	8.0
20...	.5	21...	10.0
DEC		JUN	
01...	1.0	01...	8.0
10...	.0	10...	10.0
19...	.5	19...	13.0
JAN , 1981		JUL	
09...	.0	01...	16.0
20...	.0	10...	17.0
FEB		20...	19.0
02...	.0	AUG	
10...	.0	10...	16.0
20...	1.0	20...	16.0
MAR		SEP	
02...	.5	01...	16.0
10...	1.0	10...	11.0
20...	5.0	21...	12.0

08247500 - SAN ANTONIO RIVER AT ORTIZ, CO. (LAT 36 59 35 LONG 106 02 17)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		APR , 1981	
20...	2.0	01...	7.0
NOV		10...	11.0
01...	4.0	20...	11.0
10...	6.0	MAY	
20...	.5	01...	13.0
DEC		11...	14.0
01...	.0	21...	12.0
10...	.0	JUN	
19...	.5	01...	16.0
JAN , 1981		10...	17.0
09...	.5	JUL	
20...	.5	20...	21.0
FEB		AUG	
02...	.0	10...	20.0
10...	.0	20...	22.0
20...	1.0	SEP	
MAR		01...	21.0
02...	.0	10...	16.0
10...	1.0		
20...	4.0		

08248000 - LOS PINOS RIVER NEAR ORTIZ, CO. (LAT 36 58 56 LONG 106 04 23)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		APR , 1981	
01...	15.0	01...	7.5
10...	9.0	10...	13.0
20...	2.5	20...	5.0
NOV		MAY	
01...	4.0	01...	7.0
10...	5.0	11...	11.0
20...	.5	21...	8.0
DEC		JUN	
01...	.5	01...	12.0
10...	.0	10...	13.0
19...	.5	19...	15.0
JAN , 1981		JUL	
09...	.5	01...	20.0
20...	.5	10...	23.0
FEB		20...	23.0
02...	.0	AUG	
10...	.0	10...	18.0
20...	2.0	20...	20.0
MAR		SEP	
02...	5.0	01...	19.0
10...	4.0	10...	15.0
20...	6.0	21...	15.0

08248500 - SAN ANTONIO RIVER AT MOUTH, NEAR MANASSA, CO. (LAT 37 10 37 LONG 105 52 39)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
DEC , 1980		APR , 1981	
03...	2.5	13...	17.0
23...	.0	MAY	
JAN , 1981		12...	13.0
13...	.0	26...	16.0
FEB		JUN	
05...	.5	09...	23.0
25...	7.5	24...	25.0
MAR		JUL	
18...	3.0	09...	25.0
30...	13.5	20...	25.0

08249000 - CONEJOS RIVER NEAR LASAUSES, CO. (LAT 37 18 01 LONG 105 44 47)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		MAR , 1981	
01...	17.0	02...	6.0
10...	18.0	10...	6.0
20...	13.0	APR	
NOV		01...	9.0
01...	5.0	10...	7.0
10...	12.0	19...	14.0
20...	3.0	MAY	
DEC		01...	15.0
01...	3.5	12...	13.0
10...	.0	20...	14.0
19...	2.0	JUN	
JAN , 1981		01...	19.0
09...	2.0	09...	25.0
20...	.5	JUL	
FEB		01...	21.0
02...	.0		
10...	.5		
20...	7.0		

08250000 - CULEBRA CREEK AT SAN LUIS, CO. (LAT 37 11 02 LONG 105 25 31)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		MAY , 1981	
30...	10.5	06...	14.0
NOV		19...	12.0
13...	8.0	JUN	
DEC		01...	16.0
09...	4.0	29...	19.0
30...	1.0	JUL	
JAN , 1981		16...	19.5
22...	4.5	29...	17.0
FEB		AUG	
10...	.0	13...	15.0
MAR		24...	19.0
02...	9.0	SEP	
24...	8.0	10...	17.0
APR		25...	12.0
06...	7.5		
20...	12.5		

08252000 - RIO GRANDE AT COLORADO-NEW MEXICO STATE LINE (LAT 37 00 03 LONG 105 43 19)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1980		APR , 1981	
06...	13.0	13...	11.5
20...	5.5	28...	15.0
NOV		MAY	
06...	8.5	14...	14.5
18...	1.5	26...	16.0
DEC		JUN	
03...	.5	25...	23.0
23...	.5	JUL	
JAN , 1981		10...	21.0
14...	.0	20...	21.0
FEB		AUG	
05...	.5	20...	18.0
25...	4.0	SEP	
MAR		03...	21.0
20...	6.0	17...	15.0
31...	7.0	30...	14.0

ADAMS COUNTY

395727N104071701

SC 1-60-17CCC. Carl Sanden. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 87 ft (26.5 m). MP, 1.7 ft (0.52 m) above lsd. Altitude of land surface, 4,830.8 ft (1,472.43 m). Records available: 1942-81.

Highest water level, 25.09 ft (7.647 m) below lsd, Nov. 19, 1942; lowest water level, 47.28 ft (14.41 m) below lsd, Mar. 6, 1979.

Apr. 14, 1981 45.02 ft

395643N104183301

SC 1-62-22DCA. Charles B. Nordloh. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 82 ft (25.0 m). MP, 0.8 ft (0.24 m) below lsd. Altitude of land surface, 4,994 ft (1,522 m). Records available: 1946-81.

Highest water level, 44.21 ft (13.475 m) below lsd, Nov. 25, 1949; lowest water level, 61.9 ft (18.87 m) below lsd, Mar. 12, 1973.

Mar. 3, 1981 60.53 ft

ALAMOSA COUNTY

372154N105555401

NA36- 9-13AAA. U.S. Geological Survey. Jetted observation water-table well in basin-fill deposits. Diameter, 3 in (0.076 m). Depth, 10 ft (3.0 m). MP, 2.3 ft (0.70 m) above lsd. Altitude of land surface, 7,558.1 ft (2,303.71 m). Records available: 1949-64, 19 6-75, 1980-81.

Highest water level, 0.07 ft (0.021 m) below lsd. May 5, 1968; lowest water level, 6.17 ft (1.881 m) below lsd, Jan. 6, 1964.

Jan. 13, 1981 1.80 ft

373409N106021501

NA39- 9-31CCC. U.S. Geological Survey. Jetted observation water-table well in basin-fill deposits. Diameter, 3 in (0.076 m). Depth, 10 ft (3.0 m). MP, 1.70 ft (0.518 m) above lsd. Altitude of land surface, 7,567.4 ft (2,306.54 m). Records available: 1948-64, 1966-75, 1977, 1980.

Highest water level, 1.42 ft (0.433 m) below lsd, June 26, 1962; lowest water level, 5.78 ft (1.762 m) below lsd, Jan. 27, 1969.

1981 No measurement.

BACA COUNTY

373058N102151500

SC29-43-15CCB. James Thompson. Drilled observation artesian well in Cheyenne Sandstone Member of Purgatoire Formation. Diameter, 1.25 in (0.032 m). Depth, 343 ft or 104.5 m (reported). MP, 1.40 ft (0.427 m) above lsd. Altitude of land surface, 3,913 ft (1,193 m). Records available: 1955-81.

Highest water level, 48.60 ft (14.813 m) below lsd, Jan. 16, 1975; lowest water level, 68.74 ft (20.95 m) below lsd, Feb. 2, 1978.

Jan. 7, 1981 60.78 ft

BENT COUNTY

380228N103105600

SC23-52-13DDC. B. F. Owens. Drilled stock water-table well in valley-fill deposits. Diameter, 6 in (0.15 m). Depth, 19 ft (5.8 m). MP, 2.0 ft (0.61 m) above lsd. Altitude of land surface, 3,895 ft (1,187 m). Records available: 1959-75, 1979-81.

Highest water level, 8.6 ft (2.62 m) below lsd, Dec. 4, 1962; lowest water level, 16.6 ft (5.060 m) below lsd, Nov. 13, 1964.

Mar. 11, 1981 14.51 ft

ELBERT COUNTY

391717N103475001

SC 9-57- 8ABB. J. C. Mattson. Drilled observation water-table well in alluvium. Diameter, 6 in (0.15 m). Depth, 28 ft (8.5 m). MP, 0.20 ft (0.061 m) above lsd. Altitude of land surface, 5,475 ft (1,669 m). Records available: 1945-81.

Highest water level, 5.00 ft (1.524 m) below lsd, July 2, 1947; lowest water level, 7.92 ft (2.414 m) below lsd, Mar. 2, 1977.

Mar. 31, 1981 7.21 ft

EL PASO COUNTY

390441N104184501

SC11-62-22ADC. Anthony Eurich. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 44 ft (13.4 m). MP, 0.80 ft (0.244 m) above lsd. Altitude of land surface, 6,364.8 ft (1,940.0 m). Records available: 1945-81.

Highest water level, 5.49 ft (1.673 m) below lsd, Aug. 9, 1947; lowest water level, 8.48 ft (2.585 m) below lsd, July 11, 1952.

Apr. 9, 1981 6.74 ft

HUERFANO COUNTY

373922N104501401

SC-27-67-36ACB. State of Colorado. Drilled stock water-table well in Trinidad Sandstone. Diameter, 7 in (0.178 m). Depth, 62 ft (18.9 m). MP, 2.2 ft (0.67 m) above lsd. Altitude of land surface, 6,282 ft (1,915 m). Records available: 1950-75, 1980.

Highest water level, 41.33 ft (12.95 m) below lsd, May 7, 1980; lowest water level, 48.8 ft (14.87 m) below lsd, Apr. 26, 1955.

1981 No measurement.

KIOWA COUNTY

383230N102274601

SC17-45-31ABA. U.S. Government. Bored observation water-table well in valley-fill deposits. Diameter, 1.25 in (0.032 m). Depth, 11 ft (3.35 m). MP, 1.5 ft (0.46 m) above lsd. Altitude of land surface, 3,954.4 ft (1,205.30 m). Records available: 1959-81.

Highest water level, 5.32 ft (1.625 m) below lsd, Mar. 19, 1979; lowest water level, 8.6 ft (2.62 m) below lsd, Nov. 10, 1960.

Mar. 19, 1981 5.43 ft

KIT CARSON COUNTY

392230N103052000

SC 8-51-10ABB2. Drilled irrigation water-table well in alluvium and Meade Formation. Diameter, 18 in (0.46 m). Depth, 74 ft (22.6 m). MP, 0.1 ft (0.03 m) above lsd. Altitude of land surface, 4,870 ft (1,484 m). Records available: 1951-81.

Highest water level, 30.4 ft (9.27 m) below lsd, Jan. 15, 1952; lowest water level, 40.64 ft (12.387 m) below lsd, Jan. 8, 1979.

Jan. 6, 1981 38.39 ft

391110N102030100

SC10-42-12DCC. U.S. Government. Drilled observation water-table well in Ogallala Formation. Diameter, 1.25 in (0.032 m). Depth, 273 ft (83.2 m). MP, 3.30 ft (1.006 m) above lsd. Altitude of land surface, 3,997.7 ft (1,218.50 m). Records available: 1955-81.

Highest water level, 101.67 ft (30.989 m) below lsd, Aug. 12, 1955; lowest water level, 128.59 ft (38.733 m) below lsd, Jan. 17, 1980.

Jan. 7, 1981 130.47 ft

LARIMER COUNTY

402426N105013001

SB 5-68-17AAB. George Peak. Drilled irrigation water-table well in alluvium. Diameter, 48 in (1.22 m). Depth, 24 ft (7.3 m). MP, 1.0 ft (0.30 m) above lsd. Altitude of land surface, 4,948 ft (1,508 m). Records available: 1941-81.

Highest water level, 5.43 ft (1.655 m) below lsd, Oct. 27, 1947; lowest water level, 14.45 ft (4.404 m) below lsd, Apr. 20, 1949.

Mar. 6, 1981 11.18 ft

403333N104585001

SB 7-68-23CBB1. W. A. Scott. Drilled observation water-table well in alluvium. Diameter, 48 in (1.22 m). Depth, 52 ft (15.8 m). MP, 2.70 ft (0.823 m) above lsd. Altitude of land surface, 4,902 ft (1,494 m). Records available: 1941-79.

Highest water level, 5.1 ft (1.86 m) below lsd, Nov. 6, 1957; lowest water level, 10.5 ft (3.20 m) below lsd, Mar. 15, 1975.

1981 No measurement.

404517N105014201

SB 9-68-17BAA. Harlan Seaworth. Drilled irrigation water-table well in alluvium. Diameter, 20 in (0.51 m). Depth, 92 ft (28.0 m). MP, 0.40 ft (0.122 m) above lsd. Altitude of land surface, 5,329 ft (1,624 m). Records available: 1939-79.

Highest water level, 29.02 ft (8.845 m) below lsd, Apr. 3, 1959; lowest water level, 64.45 ft (19.644 m) below lsd, Nov. 9, 1956.

1981 No measurement.

LINCOLN COUNTY

385724N103155601

SC13-53- 10DC. U.S. Government. Bored observation water-table well in alluvium. Diameter, 1.25 in (0.032 m). Depth, 8 ft (2.4 m). MP, 1.0 ft (0.30 m) above lsd. Altitude of land surface, 4,720 ft (1,439 m). Records available: 1959-77, 1979-81.

Highest water level, 3.5 ft (1.07 m) below lsd, Apr. 4, 1960; lowest water level, 5.28 ft (1.609 m) below lsd, Mar. 2, 1977.

Mar. 31, 1981 4.41 ft

LOGAN COUNTY

404256N103064401

SB 9-51-31BBB. Frank Manuello. Drilled irrigation water-table well in alluvium. Diameter unknown. Depth, 106 ft (32.3 m). MP, 1.0 ft (0.30 m) above lsd. Altitude of land surface, 3,865 ft (1,179 m). Records available: 1947-81.

Highest water level, 2.89 ft (0.881 m) below lsd, Oct. 6, 1947; lowest water level, 7.16 ft (2.182 m) below lsd, Jan. 10, 1975.

Mar. 10, 1981 6.05 ft

405209N102481700

SB10-49- 2CBC. G. E. Henery. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 32 ft (9.8 m). MP, 1.50 ft (0.457 m) above lsd. Altitude of land surface, 3,711 ft (1,131 m). Records available: 1947-79, 1981.

Highest water level, 3.95 ft (1.204 m) below lsd, Apr. 7, 1958; lowest water level, 9.03 ft (2.752 m) below lsd, Nov. 6, 1964.

Mar. 24, 1981 6.55 ft

MORGAN COUNTY

401452N103480200

SB 3-57- 6DCC. City of Fort Morgan. Dug and drilled observation water-table well in alluvium. Diameter, 12 in (0.30 m). Depth, 180 ft (54.9 m). MP, 5.0 ft (1.52 m) below lsd. Altitude of land surface, 4,325.6 ft (1,318.44 m). Records available: 1940-81.

Highest water level, 39.88 ft (12.155 m) below lsd, Jan. 20-21, 1955; lowest water level, 56.76 ft (17.300 m) below lsd, Sept. 5, 1965.

Mar. 10, 1981 50.82 ft

401424N103505200

SB 3-58-11BCC. Alex Stark. Drilled irrigation water-table well in alluvium. Diameter, 16 in (0.41 m). Depth, 145 ft (44.2 m). MP, 0.8 ft (0.24 m) above lsd. Altitude of land surface, 4,366.2 ft (1,330.82 m). Records available: 1939-65, 1967, 1970-79.

Highest water level, 51.85 ft (15.804 m) below lsd, Nov. 19, 1942; lowest water level, 69.87 ft (21.296 m) below lsd, Nov. 5, 1964.

1981 No measurement.

401214N104053401

SB 3-60-22CCC. B. A. Holden. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 120 ft (36.6 m). MP, 0.20 ft (0.061 m) above lsd. Altitude of land surface, 4,568.4 ft (1,392.45 m). Records available: 1936-81.

Highest water level, 49.44 ft (15.069 m) below lsd, Apr. 11, 1938; lowest water level, 103.83 ft (28.687 m) below lsd, Mar. 25, 1980.

Mar. 11, 1981 97.39 ft

401915N103321100

SB 4-55- 9DCC. Rudolph and Schooley. Drilled irrigation water-table well in alluvium. Diameter, 14 in (0.36 m). Depth, 88 ft (26.8 m). MP, 2.0 ft (0.61 m) above lsd. Altitude of land surface, 4,175.2 ft (1,272.60 m). Records available: 1930, 1932-79.

Highest water level, 14.75 ft (4.496 m) below lsd, Oct. 19, 1949; lowest water level, 25.76 ft (7.852 m) below lsd, Mar. 11, 1969.

1981 No measurement.

402113N103580300

SB 5-59-34CAC. G. Williams. Dug domestic and stock water-table well in alluvium. Diameter, 36 in (0.91 m). Depth, 20 ft (6.1 m). MP, 2.20 ft (0.671 m) above lsd. Altitude of land surface, 4,362 ft (1,330 m) above msl. Records available: 1947-81.

Highest water level, 7.16 ft (2.182 m) below lsd, Sept. 9, 1948; lowest water level, 16.72 ft (5.096 m) below lsd, Apr. 7, 1956.

Mar. 10, 1981 16.73 ft

OTERO COUNTY

380706N103534200 SC22-58-21DAA. C. Meyer. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 56 ft (17.1 m). MP, 1.90 ft (0.579 m) above lsd. Altitude of land surface, 4,282 ft (1,305 m). Records available: 1928-31, 1933-81.

Highest water level, 25.54 ft (7.785 m) below lsd, Mar. 28, 1955; lowest water level, 36.61 ft (11.159 m) below lsd, Mar. 6, 1979.

Mar. 13, 1981 32.71 ft

380334N103434700 SC23-57-12DAD. American Crystal Sugar Co. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 27 ft (8.2 m). MP, 2.00 ft (0.610 m) above lsd. Altitude of land surface, 4,186 ft (1,276 m). Records available: 1944-78, 1980-81.

Highest water level, 8.87 ft (2.704 m) below lsd, Dec. 4, 1946; lowest water level, 15.78 ft (4.810 m) below lsd, Nov. 27, 1956.

Mar. 11, 1981 12.62 ft

PHILLIPS COUNTY

403230N102070901 SB 7-43-35ABB2. Rosa Norris. Drilled irrigation water-table well in Ogallala Formation. Diameter, 16 in (0.43 m). Depth, 300 ft (91.4 m). MP, 0.70 ft (0.213 m) above lsd. Altitude of land surface, 3,601 ft (1,097.58 m). Records available: 1976-81.

Highest water level, 46.06 ft (14.039 m) below lsd, Feb. 20, 1974; lowest water level, 60.91 ft (18.565 m) below lsd, Dec. 29, 1981.

Feb. 26, 1981 54.15 ft

PROWERS COUNTY

380532N102311600 SC22-45-31CBB. U.S. Geological Survey. Driven observation water-table well in alluvium. Diameter, 1.25 in (0.032 m). Depth, 11 ft (3.35 m). MP, 3.5 ft (1.07 m) above lsd. Altitude of land surface, 3,567 ft (1,087 m). Records available: 1950-81.

Highest water level, 0.10 ft (0.030 m) below lsd, Aug. 24, 1967; lowest water level, 6.00 ft (1.829 m) below lsd, May 3, 1965.

Jan. 30, 1981	3.92 ft	July 16, 1981	4.04 ft
Mar. 12, 1981	4.01 ft	Sept.30, 1981	3.89 ft
May 14, 1981	4.05 ft		

PUEBLO COUNTY

381340N104205601 SC21-62- 9CCC. Susie C. Potestio. Drilled irrigation water-table well in alluvium. Diameter, 15 in (0.38 m). Depth, 28 ft (8.5 m). MP, 1.1 ft (0.34 m) above lsd. Altitude of land surface, 4,567 ft (1,392 m). Records available: 1929, 1934-75, 1980-81.

Highest water level, 13.90 ft (4.237 m) below lsd, Nov. 16, 1965; lowest water level, 20.28 ft (6.181 m) below lsd, Nov. 11, 1964.

July 28, 1981 20.55 ft

381443N104320701 SC21-64- 3DAC. Joseph Thomas. Drilled irrigation water-table well in alluvium. Diameter, 15 in (0.38 m). Depth, 35 ft (10.7 m). MP, 2.10 ft (0.640 m) above lsd. Altitude of land surface, 4,679 ft (1,426 m). Records available: 1934-75, 1979.

Highest water level, 12.20 ft (3.719 m) below lsd, Nov. 11, 1942; lowest water level, 27.50 ft (8.382 m) below lsd, Mar. 14, 1977.

1981 No measurement.

380817N104043400 SC22-60-13BBC. C. J. Sindig. Drilled irrigation water-table well in alluvium. Diameter, 4 ft (1.2 m). Depth, 39 ft (11.9 m). MP, 1.0 ft (0.30 m) above lsd. Altitude of land surface, 4,375 ft (1,334 m). Records available: 1952-81.

Highest water level, 28.21 ft (8.748 m) below lsd, Mar. 13, 1980; lowest water level, 36.16 ft (11.022 m) below lsd, Nov. 28, 1956.

Mar. 11, 1981 27.92 ft

SEDGWICK COUNTY

404741N102030500 SB10-42-32DDD. U.S. Geological Survey. Drilled observation water-table well in Ogallala Formation. Diameter, 1.25 in (0.032 m). Depth, 207 ft (63.1 m). MP, 2.80 ft (0.853 m) above lsd. Altitude of land surface, 3,609.2 ft (1,100.08 m). Records available: 1952-81.

Highest water level, 176.34 ft (53.748 m) below lsd, Jan. 16, 1969; lowest water level, 188.20 ft (57.345 m) below lsd, Jan. 30, 1980.

Feb. 25, 1981 188.83 ft

405805N102235100

SB11-45- 5BBA. F. J. Hilderman. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 52 ft (15.8 m). MP, 0.50 ft (0.152 m) above lsd. Altitude of land surface, 3,540 ft (1,079 m). Records available: 1947-79.

Highest water level, 11.23 ft (3.423 m) below lsd, Oct. 7, 1949; lowest water level, 20.70 ft (6.309 m) below lsd, Jan. 6, 1975.

1981 No measurement.

405435N102364300

SB11-47-28BBB. James Jankovsky. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 52 ft (15.8 m). MP, 0.50 ft (0.152 m) above lsd. Altitude of land surface, 3,624 ft (1,105 m). Records available: 1948-79.

Highest water level, 2.51 ft (0.765 m) below lsd, June 24, 1948; lowest water level, 5.61 ft (1.710 m) below lsd, Oct. 17, 1954.

1981 No measurement.

WASHINGTON COUNTY

395706N103325901

SC 1-55-21BCC. A. Blake. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 41 ft (12.5 m). MP, 1.50 ft (0.457 m) above lsd. Altitude of land surface, 4,487.3 ft (1,367.73 m). Records available: 1947-67, 1970-81.

Highest water level, 11.83 ft (3.606 m) below lsd, Dec. 9, 1947; lowest water level, 16.95 ft (5.166 m) below lsd, Oct. 20, 1960.

Apr. 22, 1981 14.26 ft

394038N102481800

SC 4-49-25ADC1. Cecil Williams. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 17 ft (5.2 m). MP, 0.20 ft (0.061 m) above lsd. Altitude of land surface, 4,350 ft (1,326 m). Records available: 1950-69, 1971-72, 1975-79.

Highest water level, 7.42 ft (2.262 m) below lsd, Aug. 6, 1951; lowest water level, 16.30 ft (4.968 m) below lsd, Jan. 4, 1979.

1981 No measurement.

393902N102561800

SC 5-50- 2AAB. Lloyd McIrwin. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 54 ft (16.5 m). MP, 2.00 ft (0.610 m) above lsd. Altitude of land surface, 4,514.6 ft (1,376.05 m). Records available: 1950-67, 1969-75.

Highest water level, 16.44 ft (5.011 m) below lsd, Nov. 8, 1962; lowest water level, 22.65 ft (6.904 m) below lsd, July 23, 1954.

1981 No measurement.

WELD COUNTY

400306N104154701

SB 1-62-13ADD. C. M. Roark. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 76 ft (23.2 m). MP, 3.00 ft (0.914 m) above lsd. Altitude of land surface, 4,824.1 ft (1,470.39 m). Records available: 1947-75.

Highest water level, 18.29 ft (5.575 m) below lsd, Oct. 16, 1952; lowest water level, 47.7 ft (14.54 m) below lsd, Mar. 23, 1972.

1981 No measurement.

400427N104244801

SB 1-63- 2CCC. D. Trupp. Drilled irrigation water-table well in alluvium. Diameter, 20 in (0.51 m). Depth, 96 ft (29.3 m). MP, 0.30 ft (0.091 m) above lsd. Altitude of land surface, 4,822 ft (1,470 m). Records available: 1944-56, 1958-81.

Highest water level, 51.70 ft (15.758 m) below lsd, May 1, 1950; lowest water level, 75.90 ft (23.134 m) below lsd, Nov. 13, 1959.

Mar. 9, 1981 65.50 ft

400125N104370001

SB 1-65-25CCC1. Fred Haffner, Sr. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 69 ft (21.0 m). MP, 0.60 ft (0.183 m) above lsd. Altitude of land surface, 5,044 ft (1,537 m). Records available: 1940-81.

Highest water level, 30.29 ft (9.232 m) below lsd, Apr. 12, 1950; lowest water level, 45.70 ft (13.929 m) below lsd, Mar. 2, 1979.

Mar. 10, 1981 42.93 ft

400129N104483800

SB 1-66-30ADA. G. J. Mancini. Dug irrigation water-table well in alluvium. Diameter, 8 ft (2.4 m). Depth, 31 ft (9.4 m). MP, 1.15 ft (0.351 m) above lsd. Altitude of land surface, 4,953 ft (1,510 m). Records available: 1929-75, 1978-81.

Highest water level, 10.29 ft (3.136 m) below lsd, Oct. 12, 1933; lowest water level, 20.83 ft (6.349 m) below lsd, Mar. 1, 1977.

Mar. 5, 1981 20.07 ft

401727N104133000

SB 4-61-28BBB. K. Mori. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 100 ft (30.5 m). MP, 0.80 ft (0.244 m) above lsd. Altitude of land surface, 4,482 ft (1,366 m). Records available: 1947-79.

Highest water level, 21.60 ft (6.584 m) below lsd, Oct. 9, 1947; lowest water level, 40.60 ft (12.375 m) below lsd, Mar. 1, 1976.

1981 No measurement.

401912N104313700

SB 4-64-10DDD. T. E. Dwyer. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 60 ft (18.3 m). MP, 0.60 ft (0.183 m) above lsd. Altitude of land surface, 4,635 ft (1,413 m). Records available: 1940-81.

Highest water level, 6.43 ft (1.960 m) below lsd, Nov. 9, 1949; lowest water level, 23.64 ft (7.205 m) below lsd, Nov. 13, 1956.

Mar. 10, 1981 12.80 ft

402753N104280901

SB 6-63-29BBB. H. L. Wells. Drilled irrigation water-table well in alluvium. Diameter, 4 ft (1.2 m). Depth, 37 ft (11.3 m). MP, 1.80 ft (0.549 m) above lsd. Altitude of land surface, 4,655 ft (1,419 m). Records available: 1932-79.

Highest water level, 7.19 ft (2.192 m) below lsd, Aug. 11, 1932; lowest water level, 22.85 ft (6.965 m) below lsd, Nov. 12, 1956.

1981 No measurement.

402930N104414301

SB 6-65-17BBC. H. W. Farr. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 65 ft (19.8 m). MP, 0.80 ft (0.244 m) above lsd. Altitude of land surface, 4,761.9 ft (1,451.43 m). Records available: 1932-75.

Highest water level, 21.22 ft (6.468 m) below lsd, Aug. 1, 1932; lowest water level, 41.36 ft (12.607 m) below lsd, Nov. 12, 1956.

1981 No measurement.

403032N104510201

SB 6-67-12BBB. Fred Felte. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 22 ft (6.7 m). MP, 0.50 ft (0.152 m) above lsd. Altitude of land surface, 4,859 ft (1,481 m). Records available: 1941-75.

Highest water level, 5.45 ft (1.661 m) below lsd, Mar. 21, 1962; lowest water level, 13.30 ft (4.054 m) below lsd, Nov. 12, 1956.

1981 No measurement.

403454N104403701

SB 7-65-16BBB. K. Akahoshi. Drilled irrigation watre-table well in alluvium. Diameter, 4 ft (1.2 m). Depth, 18 ft (5.5 m). MP, 2.70 ft (0.823 m) above lsd. Altitude of land surface, 4,875.1 ft (1,485.93 m). Records available: 1942-48, 1950-79.

Highest water level, 4.09 ft (1.247 m) below lsd, Oct. 28, 1959; lowest water level, 7.42 ft (2.262 m) below lsd, Apr. 29, 1946.

1981 No measurement.

403914N104451801

SB 8-66-22AAA. Troy Jones. Dug irrigation water-table well in alluvium. Diameter, 12 ft (3.6 m). Depth, 31 ft (9.4 m). MP, 2.1 ft (0.64 m) above lsd. Altitude of land surface, 5,073.7 ft (1,546.46 m). Records available: 1929-81.

Highest water level, 16.20 ft (4.938 m) below lsd, Jan. 8, 1947; lowest water level, 22.68 ft (6.913 m) below lsd, Nov. 22, 1954.

Mar. 11, 1981 21.58 ft

YUMA COUNTY

401105N102061101

SB 3-42-31BDC. U.S. Geological Survey. Drilled observation water-table well in Ogallala Formation. Diameter, 1.25 in (0.032 m). Depth, 92 ft (28.0 m). MP, 0.5 ft (0.15 m) above lsd. Altitude of land surface, 3,615.8 ft (1,102.10 m). Records available: 1952-81.

Highest water level, 21.25 ft (6.477 m) below lsd, Aug. 14, 1952; lowest water level, 48.52 ft (14.789 m) below lsd, Jan. 11, 1981.

Jan. 11, 1981 48.52 ft

401410N102415000

SB 3-48-12CCC. C. Pagel. Drilled stock water-table well in Ogallala Formation. Diameter, 4 in (0.09 m). Depth, 184 ft (56.1 m). MP, 0.1 ft (0.030 m) above lsd. Altitude of land surface, 4,068.1 ft (1,239.96 m). Records available: 1956-78.

Highest water level, 171.4 ft (52.24 m) below lsd, Nov. 21, 1966; lowest water level, 183.92 ft (56.058 m) below lsd, Jan. 15, 1977.

1981 No measurement.

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